Interim Seismic Retrofit-East Bay 288' Trusses Yerba Buena Island (Contract No. 04-043004)

The as-built drawings, which are contained in these CDs, are scanned from drawings of the existing structure for the convenience of the contractor and as a means to convey to the contractor the available information regarding the existing structure. It is to be understood that no claim is being made as to the accuracy or completeness of the said information and that the State of California or its officers or agents shall not be responsible for the manner in which the contractor interprets and uses this information or for the accuracy, currency or completeness of these scanned as-built drawings. The contractor shall be responsible to obtain, at the contractor's expense, any additional information that the contractor deems necessary for completely and accurately assessing the existing conditions of the structure. The contractor shall not be entitled to any compensation for any claim arising from inaccuracy or insufficiency of these as-built drawings or in anyway related to these drawings.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	69	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — ROGER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

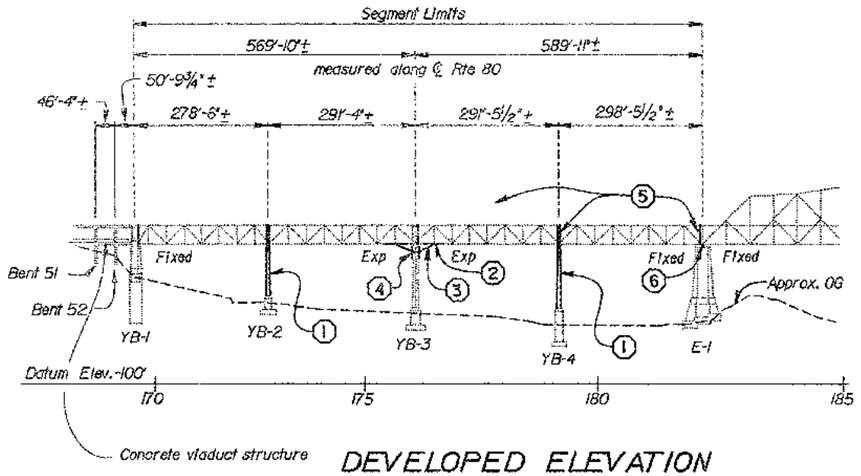
12-8-97
PLANS APPROVAL DATE

QUANTITIES

WORK AREA MONITORING	LUMP SUM
BRIDGE REMOVAL (PORTION), LOCATION B	LUMP SUM
STRUCTURAL CONCRETE, BRIDGE	3 CY
DRILL AND BOND DOWEL	41 LF
BAR REINFORCING STEEL (BRIDGE)	1,490 LB
FURNISH STRUCTURAL STEEL (BRIDGE)	269,800 LB
ERECT STRUCTURAL STEEL (BRIDGE)	269,800 LB
CLEAN AND PAINT STRUCTURAL STEEL	LUMP SUM
SPOT BLAST CLEAN AND PAINT UNDERCOAT	4,770 SQFT

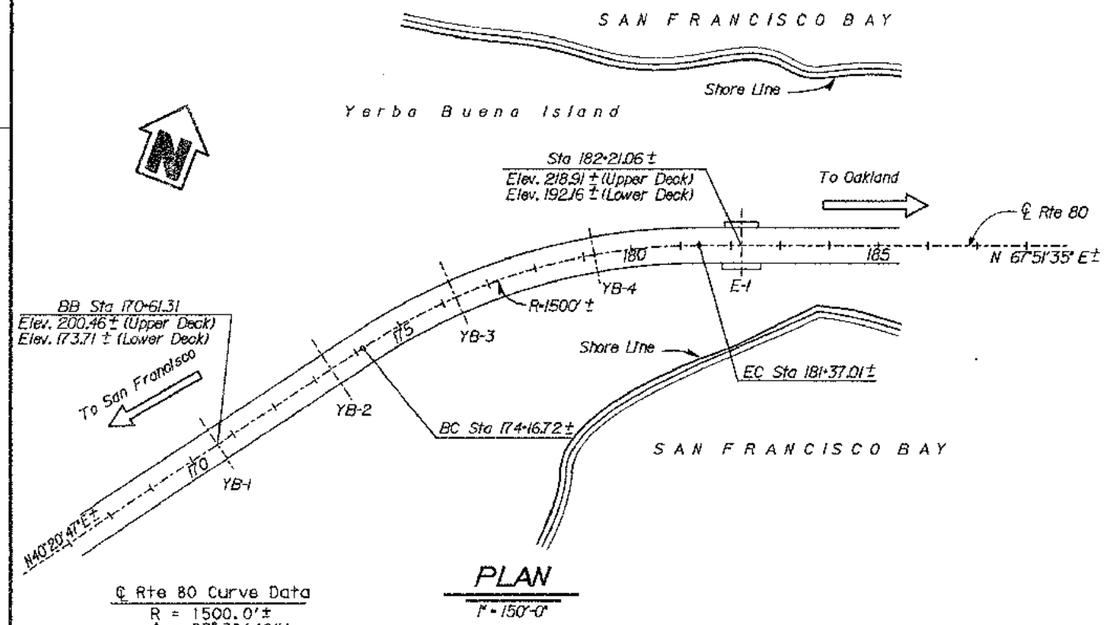
LEGEND

- Indicates Existing Structures
- Indicates New Construction
- (1) Tower Member Retrofit
- (2) Lower Chord Retrofit
- (3) Add Vertical Bracing Member
- (4) Tower Connection Retrofit
- (5) Vertical Member Retrofit
- (6) Truss Support Retrofit



DEVELOPED ELEVATION

1" = 150'-0"



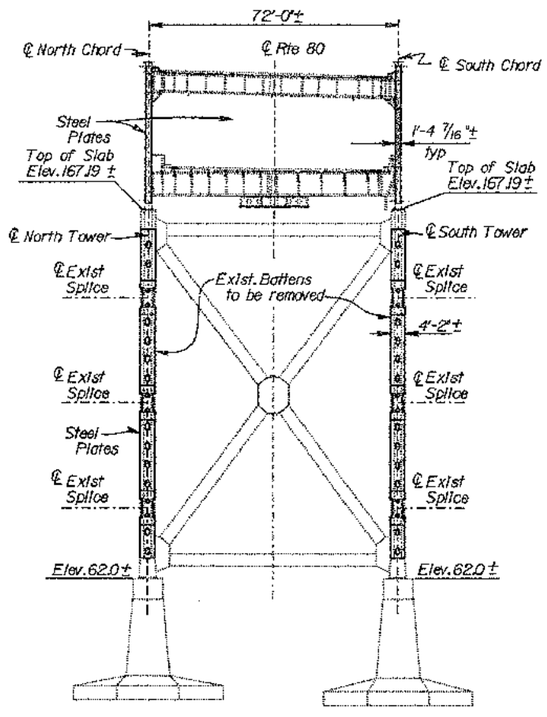
PLAN

1" = 150'-0"

℄ Rte 80 Curve Data
R = 1500.0'±
Δ = 27°30'48"±
T = 367.232'±
L = 720.297'±

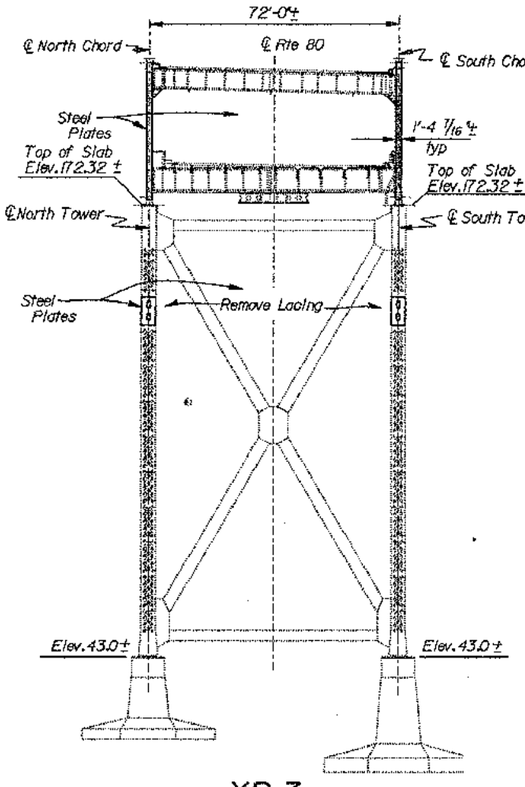
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTE:
For 'General Notes' see "Index to Plans" sheet.



YB-2 (YB-4 SIMILAR) TYPICAL SECTION

No Scale



YB-3 TYPICAL SECTION

No Scale

INTERIM SEISMIC RETROFIT PRO

EAST BAY 288 TRUSSES YERBA BUENA

SAN FRANCISCO-OAKLAND BAY BRIDGE

GENERAL PLAN

DESIGN	BY Don Lee	CHECKED E. A. Morris	LOAD FACTOR DESIGN				
DETAILS	BY Janie Chiubina	CHECKED E. A. Morris	LAYOUT	BY Don Lee	CHECKED E. A. Morris		
QUANTITIES	BY E.A. Morris	CHECKED Don Lee	SPECIFICATIONS	BY	PLANS AND SPECS COMPARED		

DESIGN ENGINEER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

CU 04
EA 043001

DS 0SD 2130 (CADD 10/99)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 5-4-97 | 5-5-97 | 5-9-97 | 5-23-97 | 6-27-97 | 10-23-97 | 10-23-97

SHEET 1 OF 36

DATE / TIME

USERNAME => trleonard
bogp001gpl_09101648

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	70	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

GENERAL NOTES

1. All new connection bolts shall be high strength bolts and shall conform to ASTM A325 bearing type unless otherwise noted in the plans. All high strength bolts in standard size holes shall be furnished with one washer beneath the turning element. All high strength bolts in oversized holes shall be furnished with two hardened washers (conforming to ASTM F436), with one washer beneath the bolt and with one washer beneath the nut. Heads of all bolts shall be on the outside face of the member as practical, unless otherwise noted. Bolt threads shall be excluded from the shear planes.

2. Maintenance platform & ladders, interfering with the new construction not shown in Road Plans shall be temporarily removed as required and reinstalled as approved by the Engineer.

3. Drain pipes to be removed as required for retrofit and reinstalled as approved by Engineer.

4. For utilities and highway facilities, such as air, water and electrical utility relocation, see Road Plans.

5. For traffic controls, see Road Plans.

6. The following symbols appear on Plan Detail sheets. They relate to various rivet replacement, drilled hole requirements, bolt/rod/stud sizes, etc., which are specified. The same symbol (e.g. △) may indicate a different requirement on a different sheet. Each sheet shall be a stand-alone sheet relative to symbols given in the legend and work specified.

● ○

▲ ◘

GENERAL NOTES
LOAD FACTOR AND RESISTANCE DESIGN

DESIGN:	BRIDGE DESIGN SPECIFICATIONS (1983 AASHTO with Interims and Revisions by CALTRANS) 1994 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SAN FRANCISCO-OAKLAND BAY BRIDGE WEST SPANS SEISMIC RETROFIT DESIGN CRITERIA
REINFORCED CONCRETE (NEW)	Grade 60, ASTM A706 f'_c = 3,250 psi
REINFORCED CONCRETE (EXISTING)	f_y = 33,000 psi f'_c = 5,000 psi
STRUCTURAL STEEL: (EXISTING)	Carbon Steel f_y = 37,000 psi f_u = 62,000 psi
STRUCTURAL STEEL (NEW)	ASTM A36 unless otherwise noted f_y = 36,000 psi
HIGH STRENGTH BOLTS	ASTM A325 unless otherwise noted
THREADED RODS	ASTM A449 unless otherwise noted
WELD	E70XX unless otherwise noted

INDEX TO PLANS

STANDARD PLANS DATED JULY 1992

DESIGN	BY E. A. Morris	CHECKED Don Lee
DETAILS	BY Janie Chlubna	CHECKED Don Lee
QUANTITIES	BY E.A. Morris	Don Lee

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

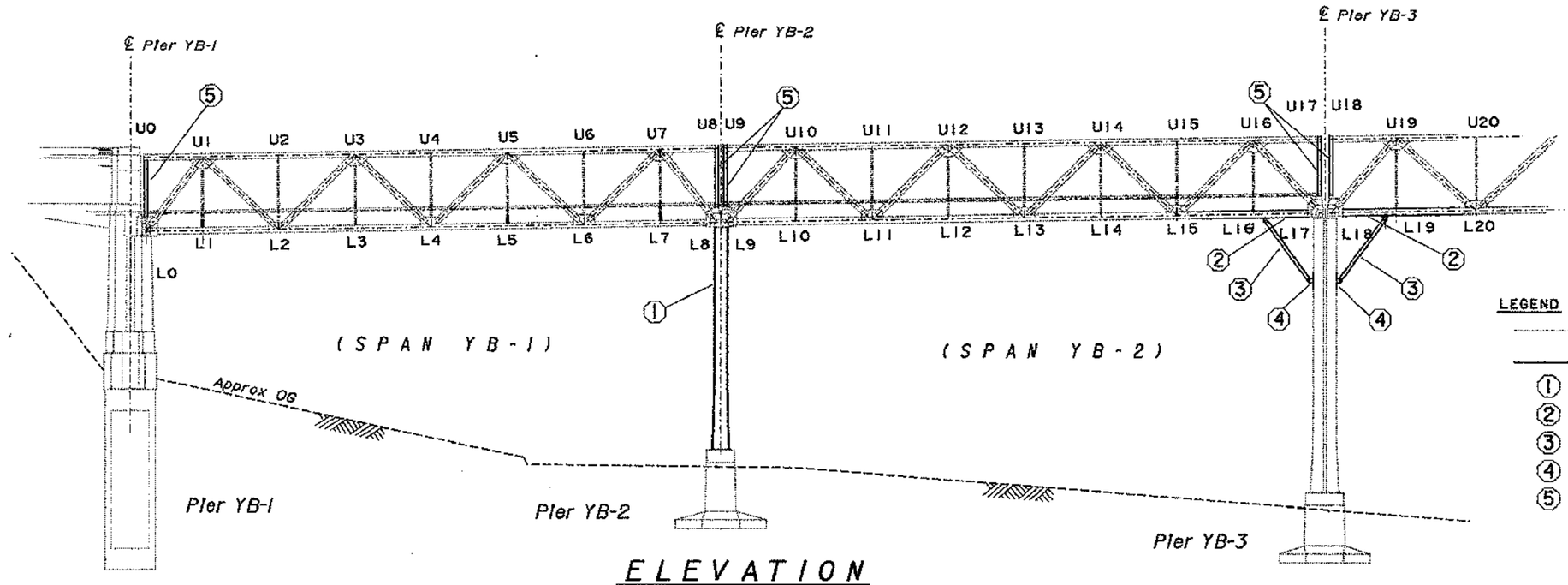
INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
INDEX TO PLANS

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	71	205

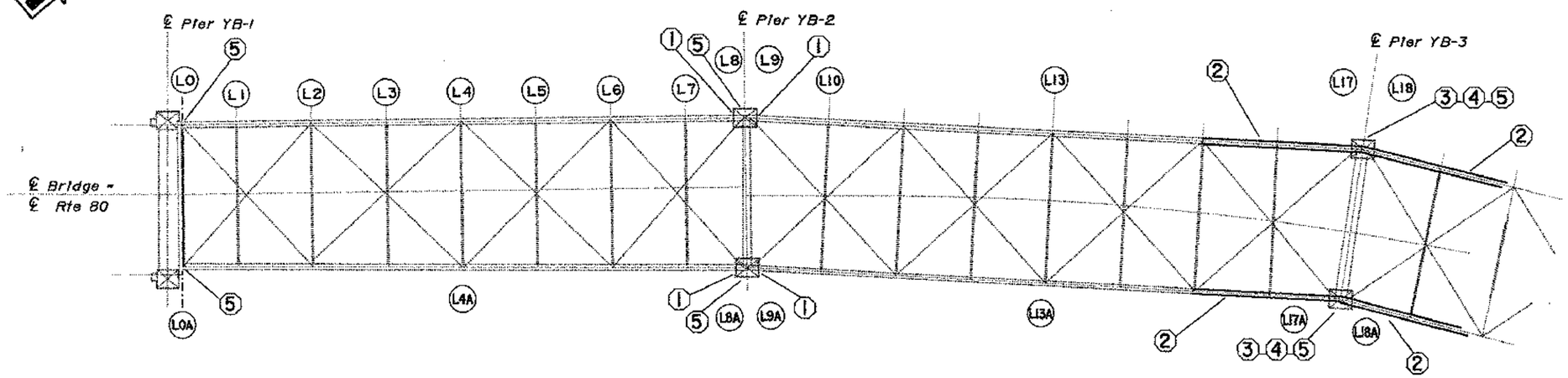
REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE



ELEVATION
1" = 30'



PLAN
1" = 30'

Note:
Existing floor framing not shown.

LEGEND

- Indicates Existing Structure
- Indicates New Construction
- (1) Indicates Tower Member Retrofit
- (2) Indicates Lower Chord Retrofit
- (3) Indicates Add Vertical Bracing Member
- (4) Indicates Tower Connection Retrofit
- (5) Indicates Vertical Member Retrofit

	BY		CHECKED	
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

CU 04
EA 04300I

BRIDGE NO. 33-0025
POST MILE 1.5

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-19-97 5-26-97 6-10-97

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
STRUCTURAL LAYOUT NO. 1

SHEET 3 OF 36

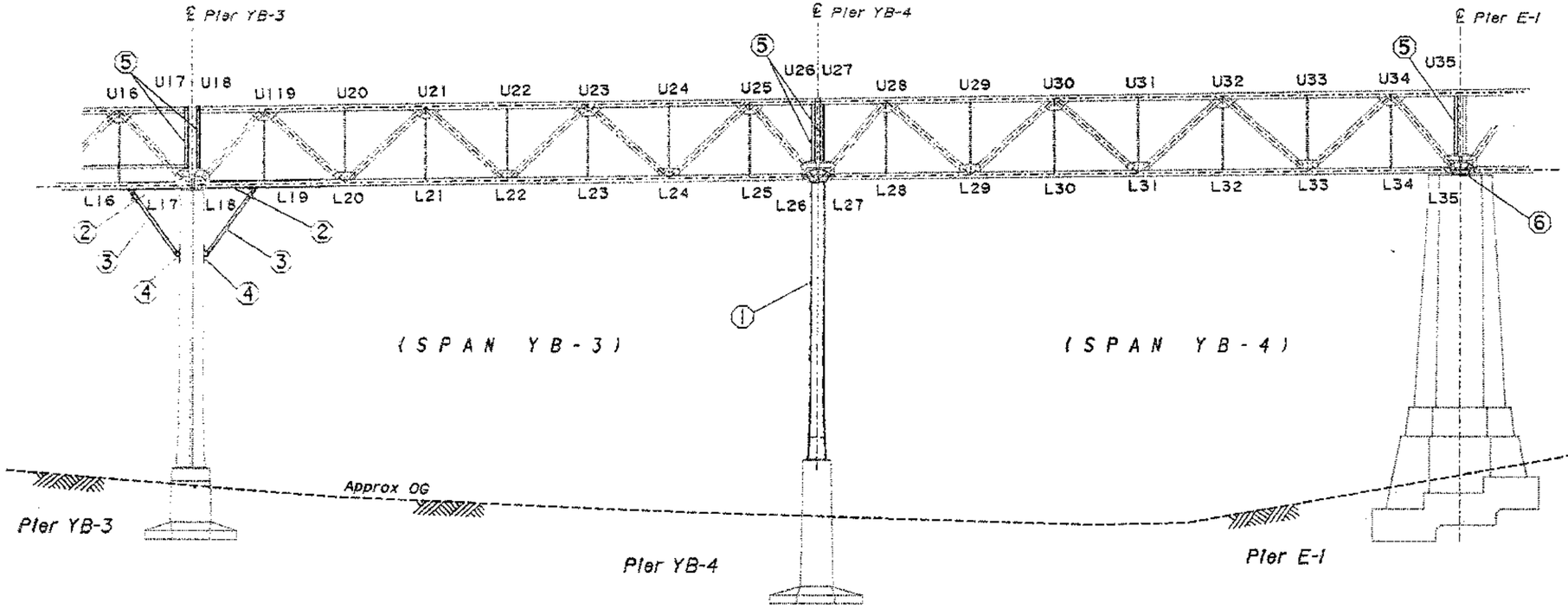
DS 0SD 2139 (CADD 3/95)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9. 0.0/1.1	72	205

REGISTERED ENGINEER - CIVIL
October 24, 1997

REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

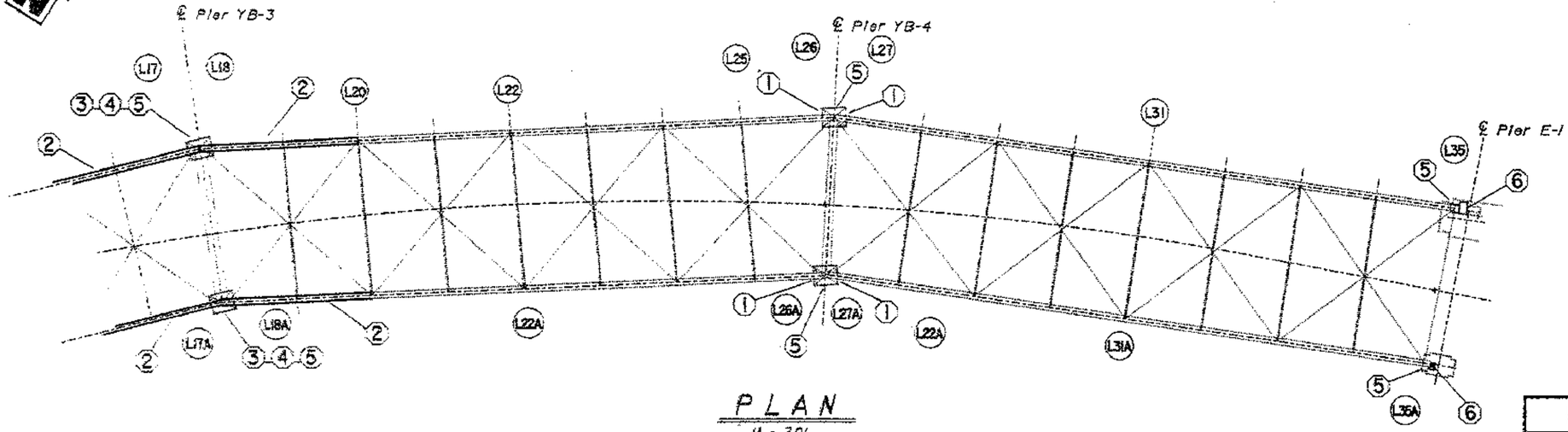
12-8-97
PLANS APPROVAL DATE



ELEVATION
1" = 30'

LEGEND

.....	Indicates Existing Structure
———	Indicates New Construction
①	Indicates Tower Member Retrofit
②	Indicates Lower Chord Retrofit
③	Indicates Add Vertical Bracing Member
④	Indicates Tower Connection Retrofit
⑤	Indicates Vertical Member Retrofit
⑥	Indicates Truss Support Retrofit



PLAN
1" = 30'

Note:
Existing floor framing not shown.

DESIGN	By: E.A. Morris	5-97	Checked: Don Lee	5-97	
DETAILS	By: Ralph Nakaoka	5-97	Checked: Don Lee	5-97	
QUANTITIES	By: E.A. Morris	5-97	Checked: Don Lee	5-97	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

CU 04
EA 04300I

BRIDGE NO. 33-0025
POST MILE 1.5

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 5-9-97, 6-6-97, 10-2-97

SHEET 4 OF 36

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
STRUCTURAL LAYOUT NO. 2

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	73	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DEH-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

CONSTRUCTION NOTES:

1. Batten removal shall be performed on only one face of one tower leg per pier at a time.
2. The maximum unbraced length between tower leg angles shall not exceed 40 feet at any time.
3. During construction recess longer than 6 hours, Tower leg angles shall be braced at maximum of 10 feet intervals.

LEGEND

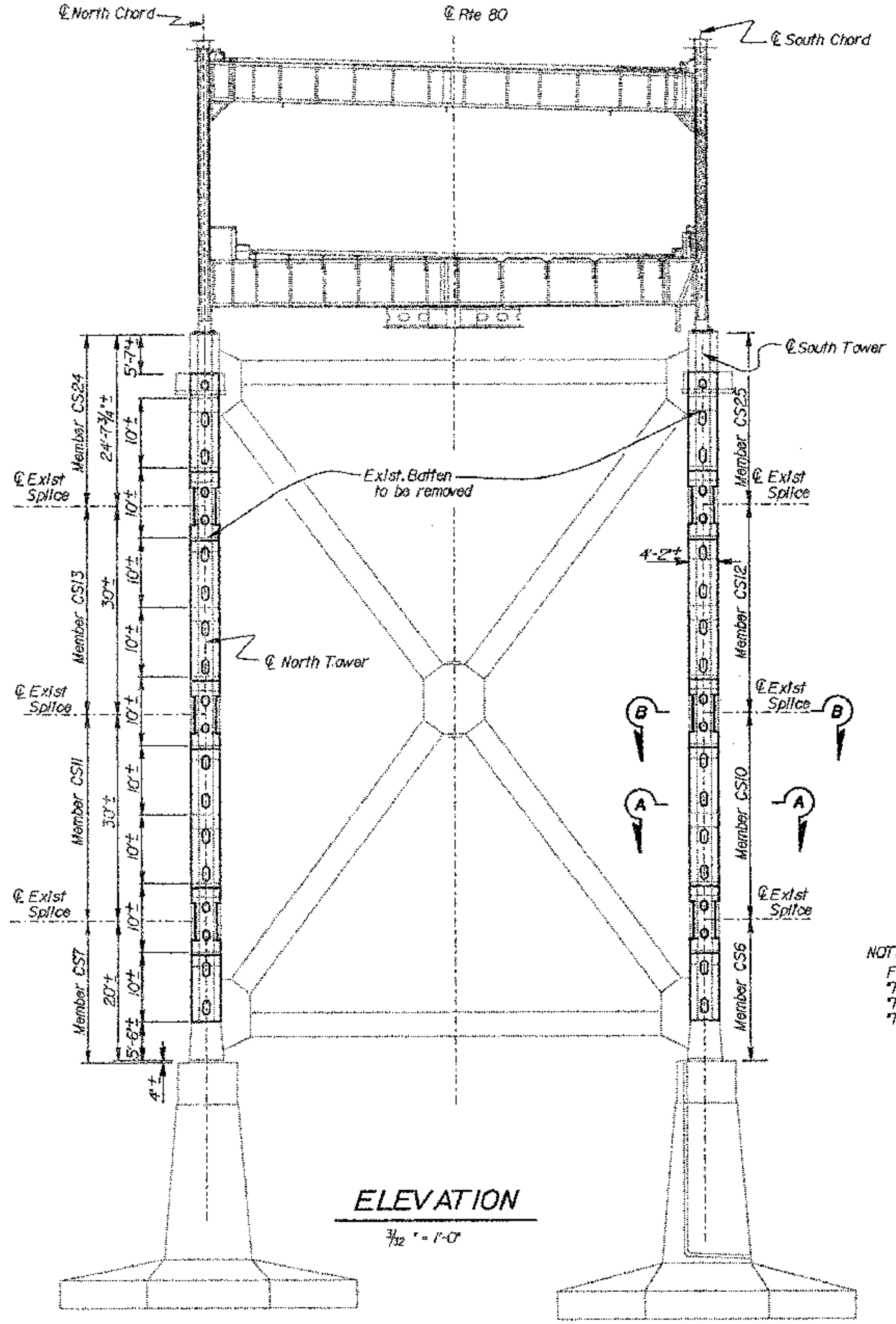
Indicates Existing Structures

Indicates New Construction

ANNOTATION

TPCPE - 'Tower Perforated Cover Plate East Side'

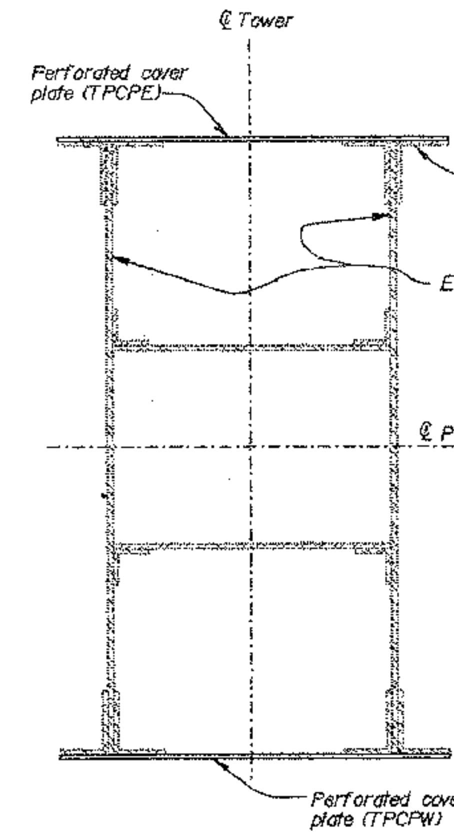
TPCPW - 'Tower Perforated Cover Plate West Side'



ELEVATION

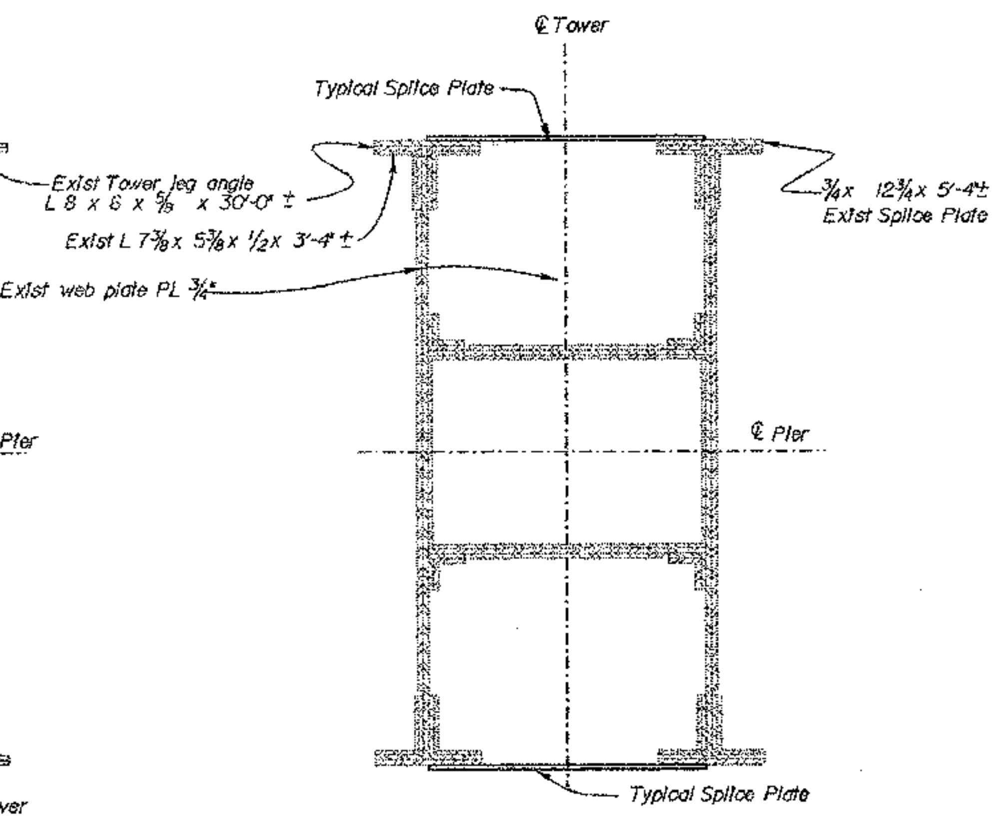
3/32" = 1'-0"

NOTE:
For details not shown see "Tower Member 'CS6' and 'CS7'", "Tower Member 'CS10' Thru 'CS15'", "Tower Member 'CS24' and 'CS25'", and "Vertical Member Detail" sheets.



SECTION A-A

1" = 1'-0"



SECTION B-B

1" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY E. A. Morris	CHECKED Fadel Alameddine
DETAILS	BY Jonie Chiubno	CHECKED Fadel Alameddine
QUANTITIES	BY Don Lee	CHECKED Fadel Alameddine

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER YB-2

DS OSD 2139 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 3-20-97, 5-2-97, 5-8-97, 5-19-97, 5-21-97, 6-4-97, 5-27-97, 5-27-97, 10-2-97

SHEET 5 OF 36

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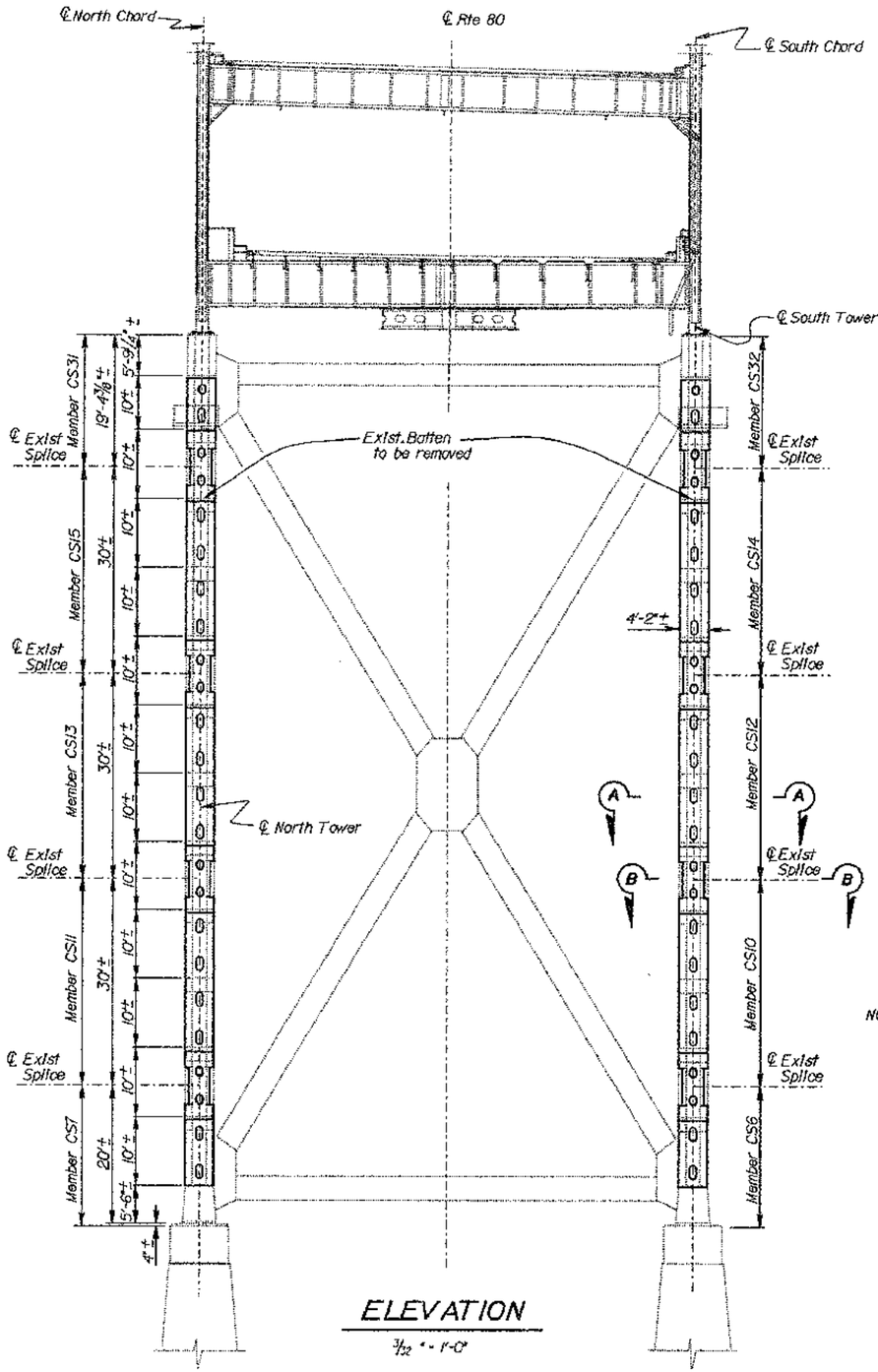
bepfr05yp2.09081441

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:04



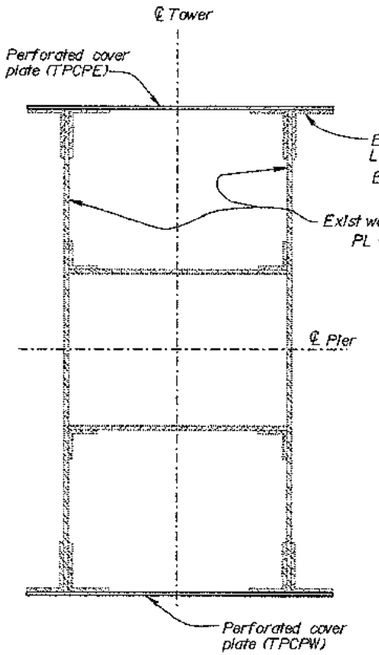
ELEVATION

3/32 " = 1'-0"

CONSTRUCTION NOTES:

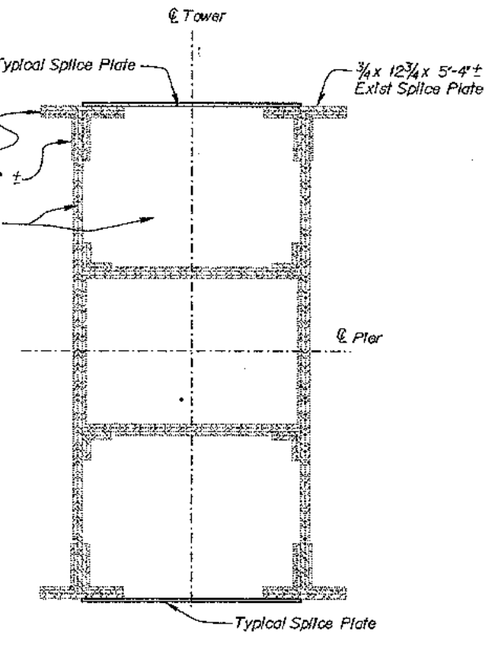
1. Batten removal shall be performed on only one face of one tower leg per pier at a time.
2. The maximum unbraced length between tower leg angles shall not exceed 40 feet at any time.
3. During construction recess longer than 6 hours, Tower leg angles shall be braced at maximum of 10 feet intervals.

NOTE:
For details not shown see "Tower Member 'CS6' and 'CS7'", "Tower Member 'CS10' Thru 'CS15'", "Tower Member 'CS31' and 'CS32'", and "Vertical Member Detail" sheets.



SECTION A-A

1" = 1'-0"



SECTION B-B

1" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alo	80	7.8/8.9, 0.0/1.1	74	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — PER-FU DONALD LEE — No. 50918 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

LEGEND

Indicates Existing Structures

Indicates New Construction

ANNOTATION

TPCPE - 'Tower Perforated Cover Plate East Side'

TPCPW - 'Tower Perforated Cover Plate West Side'

DESIGN	Don Lee	Fadel Alameddine
DETAILS	Janie Chiubno	Fadel Alameddine
QUANTITIES	Don Lee	Fadel Alameddine

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER YB-4

DS 050 2139 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)
5-16-97 | 5-28-97 | 5-28-97 | 5-30-97 | 5-30-97 | 5-27-97 | 9-22-97 | 10-2-97

SHEET 6 OF 36

USERNAME -> trlenard
bapir06yb4_09081503

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:07

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	75	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

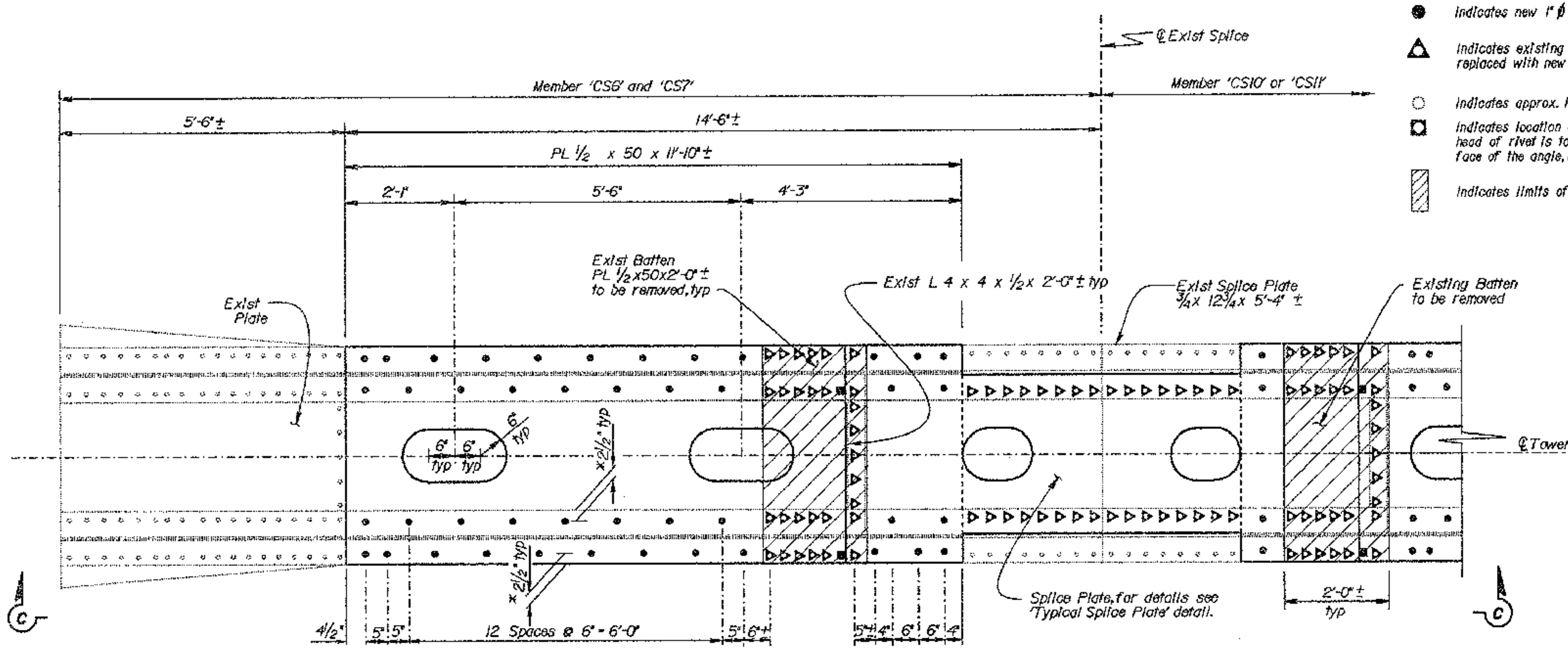
REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

LEGEND

- Indicates existing structures.
- Indicates new construction.
- Indicates new 1" ϕ high strength bolts.
- Indicates existing 1" ϕ rivets to be removed and replaced with new 1" ϕ high strength bolts.
- Indicates approx. location of existing rivets
- Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.
- Indicates limits of steel removal.

ANNOTATION

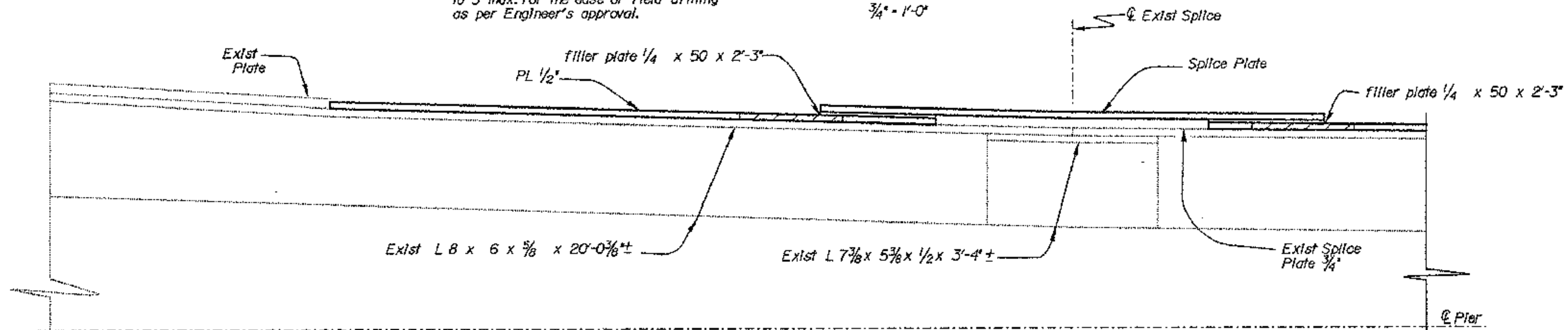
TPCPE - 'Tower Perforated Cover Plate East Side'
TPCPW - 'Tower Perforated Cover Plate West Side'



× The edge distance can be adjusted to 3" max. for the ease of field drilling as per Engineer's approval.

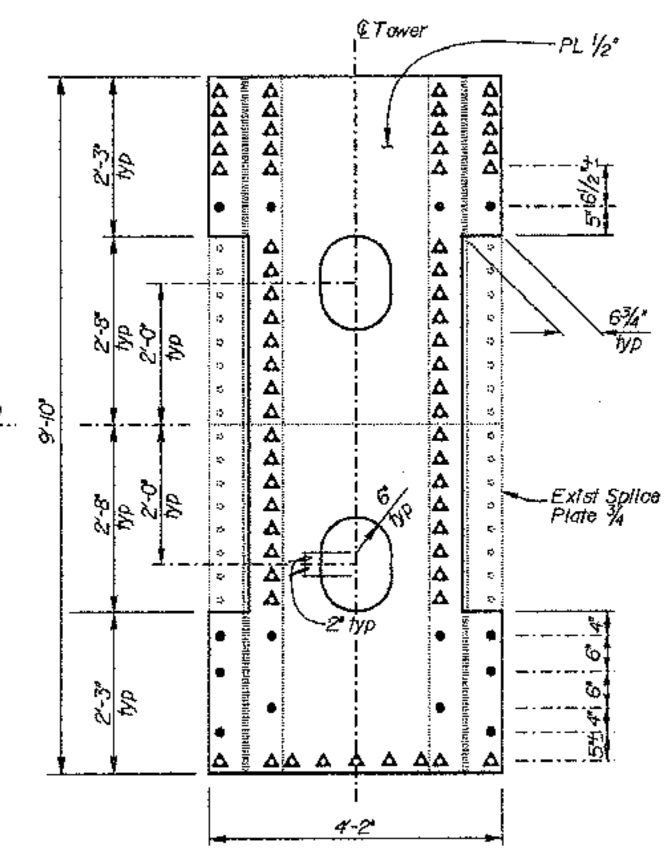
'CS6' AND 'CS7'

3/4" = 1'-0"



PART VIEW C-C

Horiz.- 3/4" = 1'-0"
Vert.- 3" = 1'-0"



TYPICAL SPLICE PLATE

3/4" = 1'-0"

NOTES:

All details not shown in 'Part View C-C'.

Details shown symmetric about ℄ Pier.

TPCPW side shown, TPCPE side similar. For location see "Pier YB-2" sheet.

All bolts not shown for clarity.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Don Lee	CHECKED Fadel Alameddine
DETAILS	BY Janie Chiubna	CHECKED Fadel Alameddine
QUANTITIES	BY Don Lee	CHECKED Fadel Alameddine

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
TOWER MEMBER 'CS6' AND 'CS7'

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 4-23-97, 10-2-97, 10-23-97, 5-20-97, 5-28-97, 6-4-97, 6-5-97, 6-9-97, 9-12-97

SHEET 7 OF 36

DS OSD 2139 (CADD 9/95)

USERNAME => trmikes!
bep1r07tmi_09071000

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:14

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ANNOTATION

TPCPE - 'Tower Perforated Cover Plate East Side'
TPCPW - 'Tower Perforated Cover Plate West Side'

LEGEND

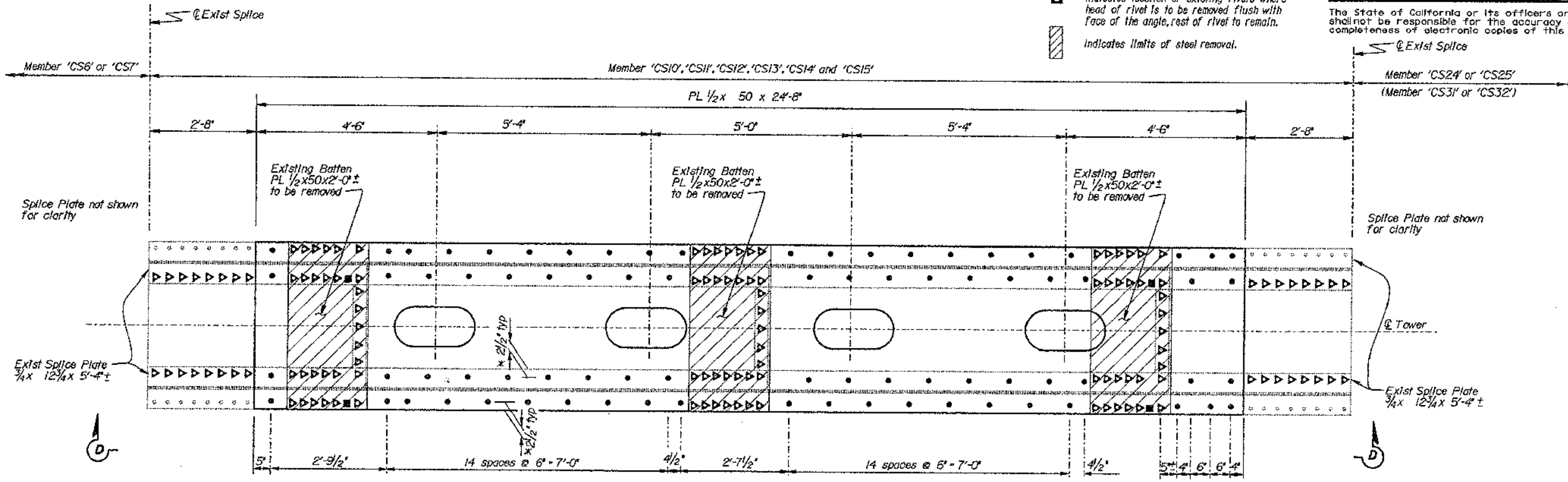
- Indicates existing structures.
- Indicates new construction.
- ● Indicates new 1" Ø high strength bolts.
- △ Indicates existing 1" Ø rivets to be removed and replaced with new 1" Ø high strength bolts.
- ○ Indicates approx. location of existing rivets
- ◘ Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.
- ▨ Indicates limits of steel removal.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	76	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

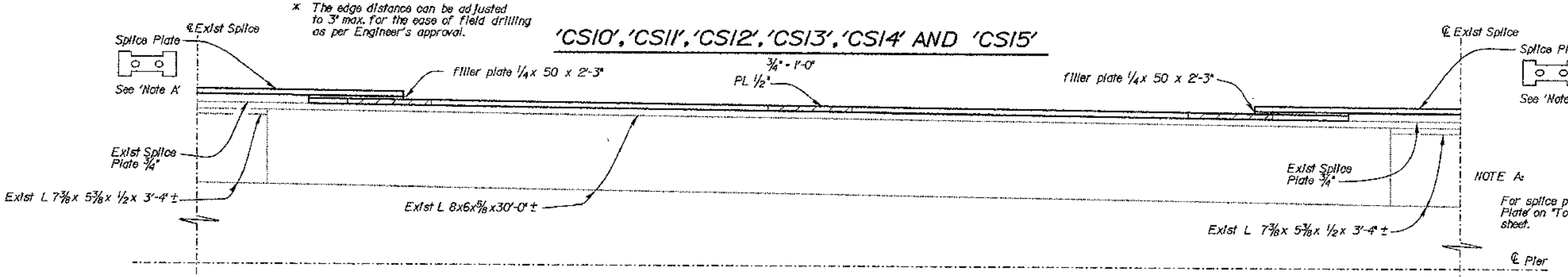
REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA



* The edge distance can be adjusted to 3" max. for the ease of field drilling as per Engineer's approval.

'CS10','CS11','CS12','CS13','CS14' AND 'CS15'

3/4" = 1'-0"



NOTE A:
For splice plate details see 'Typical Splice Plate' on "Tower Member 'CS6' and 'CS7'" sheet.

NOTES:
All details not shown in 'Part View D-D'.
Details shown symmetric about ℄ Pier.
TPCPW side shown, TPCPE side similar.
For location see "Pier YB-2" and "Pier YB-4" sheets.
All bolts not shown for clarity.

PART VIEW D-D

Horiz.= 3/4" = 1'-0"
Vert.= 3" = 1'-0"

NOTE:
('CS10' and 'CS11' shown 'CS12','CS13', 'CS14' and 'CS15' similar)

DESIGN	BY Don Lee	CHECKED Fadel Alameddine	
DETAILS	BY Janie Chiubna	CHECKED Fadel Alameddine	
QUANTITIES	BY Don Lee	CHECKED Fadel Alameddine	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
TOWER MEMBER 'CS10' THRU 'CS15'

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) 4-23-97 0-23-97 10-27-97 5-20-97 5-28-97 6-4-97 6-9-97 6-27-97 9-22-97

SHEET 8 OF 36

DS OSD 2139 (CADD 9/95)

USERNAME => trmlkesl
bepir08tm2_09071009

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:17

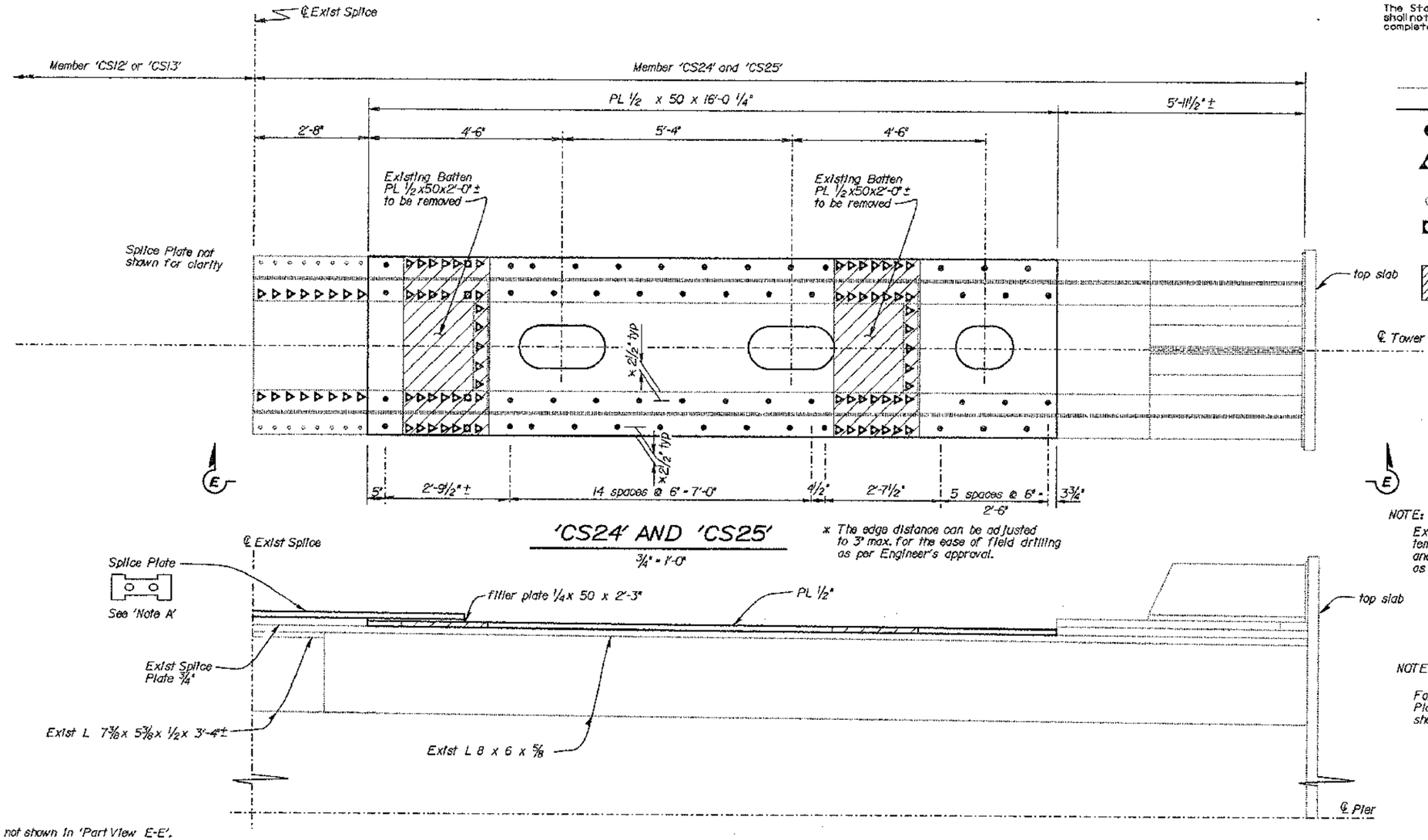
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	77	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DEREK DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



'CS24' AND 'CS25'

¾" = 1'-0"

* The edge distance can be adjusted to 3" max. for the ease of field drilling as per Engineer's approval.

NOTES:

All details not shown in 'Part View E-E'.

Details shown symmetric about ℄ Pier.

TPCPW side shown, TPCPE side similar. For locations see "Pier YB-2" sheet.

All bolts not shown for clarity.

PART VIEW E-E

Horiz.= ¾" = 1'-0"
Vert.= 3" = 1'-0"

LEGEND

- Indicates existing structures.
- Indicates new construction.
- Indicates new 1" ϕ high strength bolts.
- Indicates existing 1" ϕ rivets to be removed and replaced with new 1" ϕ high strength bolts.
- Indicates approx. location of existing rivets
- Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.
- Indicates limits of steel removal.

ANNOTATION

TPCPE - "Tower Perforated Cover Plate East Side"
TPCPW - "Tower Perforated Cover Plate West Side"

NOTE:
Existing platform, not shown, shall be temporarily detached, supported, and reinstalled on the new cover plate as per Engineer's approval.

NOTE A:
For Splice plate details see 'Typical Splice Plate' details on 'Tower Member 'CS6' and 'CS7'' sheet.

DESIGN	BY E. A. Morris	CHECKED Fadel Alameddine	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURE DESIGN TOLL BRIDGES SPECIAL ANALYSIS	BRIDGE NO. 33-0025
DETAILS	BY Janie Chlubna	CHECKED Fadel Alameddine			POST MILE 1.5
QUANTITIES	BY Don Lee	CHECKED Fadel Alameddine			

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
TOWER MEMBER 'CS24' AND 'CS25'

05 050 2039 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 5-2-91 | 8-23-91 | 10-21-91 | 5-20-97 | 5-30-97 | 6-4-97 | 6-27-97 | 9-24-97 | 12-8-97

SHEET 9 OF 36

USERNAME => tmilkes1
bepltr09tm3_09071017

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:19

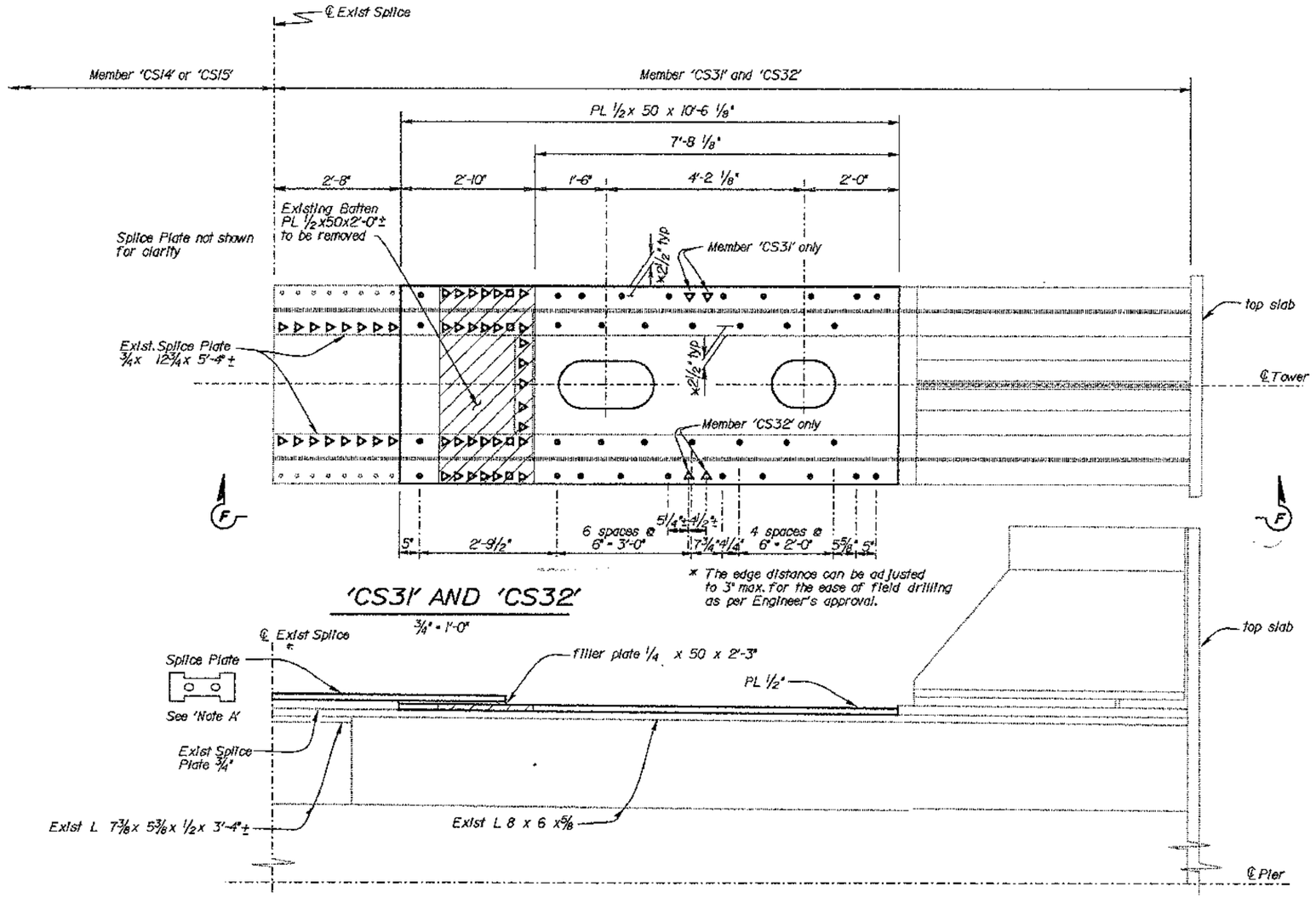
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	78	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DONALD S. LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



PART VIEW F-F

Horiz.= ¾" = 1'-0"
Vert.= 3" = 1'-0"

LEGEND

- Indicates existing structures.
- Indicates new construction.
- ● Indicates new 1" ϕ high strength bolts.
- △ Indicates existing 1" ϕ rivets to be removed and replaced with new 1" ϕ high strength bolts.
- ○ Indicates approx. location of existing rivets
- □ Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.
- ▨ Indicates limits of steel removal.

ANNOTATION

TPCPE - 'Tower Perforated Cover Plate East Side'
TPCPW - 'Tower Perforated Cover Plate West Side'

NOTE:
Existing platform, not shown, shall be temporarily detached, supported, and reinstalled on the new cover plate as per Engineer's approval.

NOTE A:
For splice plate details see 'Typical Splice Plate' on 'Tower Member 'CS6' and 'CS7'' sheet.

NOTES:
All details not shown in 'Part View F-F'.
Details shown symmetric about ℄ Pier.
TPCPW side shown, TPCPE side similar. For location see "Pier YB-4" sheet.
All bolts not shown for clarity.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Don Lee	CHECKED Fadel Alameddine	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Janie Chiuong	CHECKED Fadel Alameddine	
QUANTITIES	BY Don Lee	CHECKED Fadel Alameddine	

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

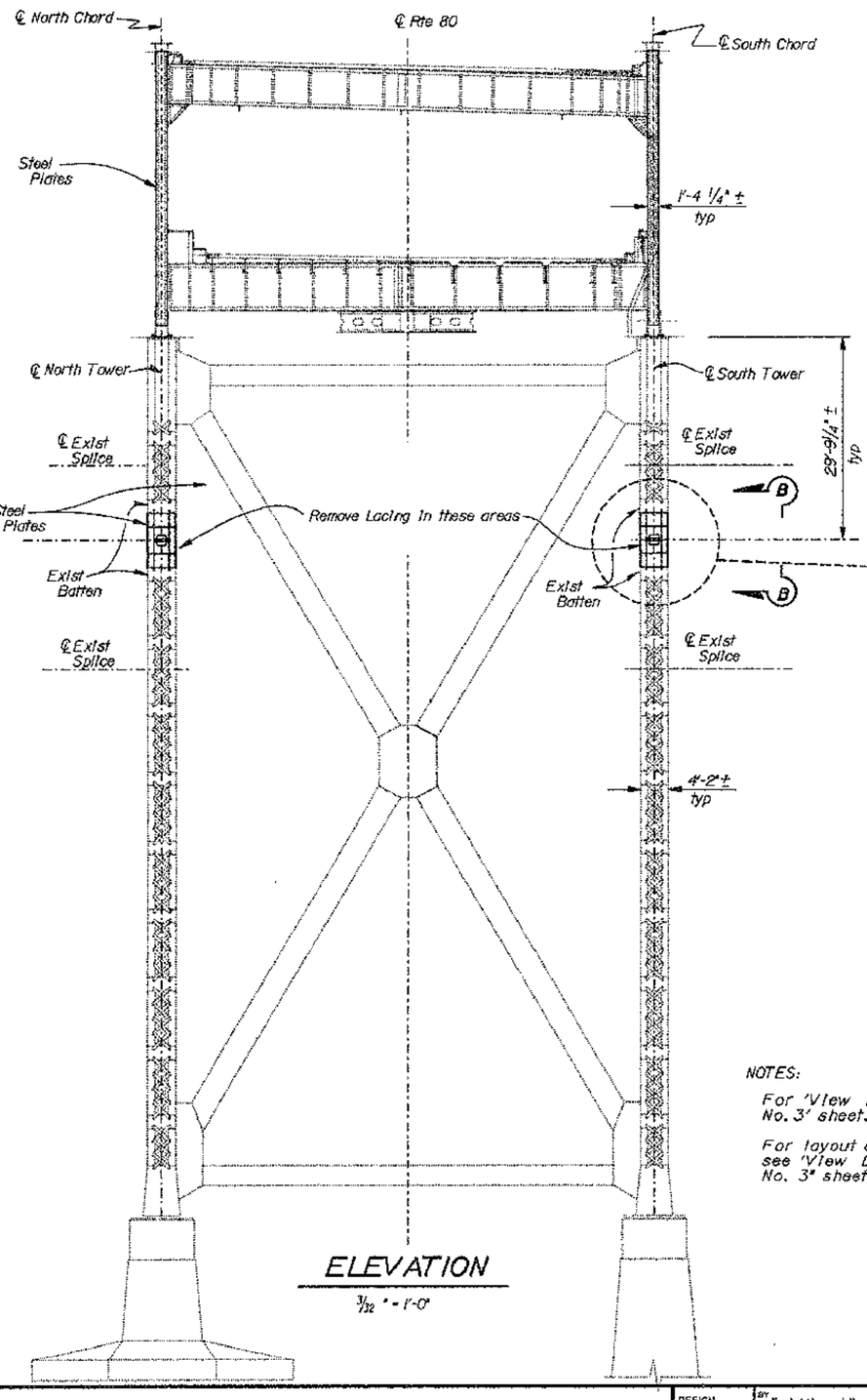
BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
TOWER MEMBER 'CS31' AND 'CS32'

DS 050 209 (CADD 9/95)
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
CU 04
EA 043001
DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES (PRELIMINARY STAGE ONLY): 5-3-91 | 10-25-91 | 10-21-91 | 5-28-91 | 5-24-91 | 5-29-91 | 5-21-91 | 9-24-97 | 10-2-97
SHEET 10 OF 36

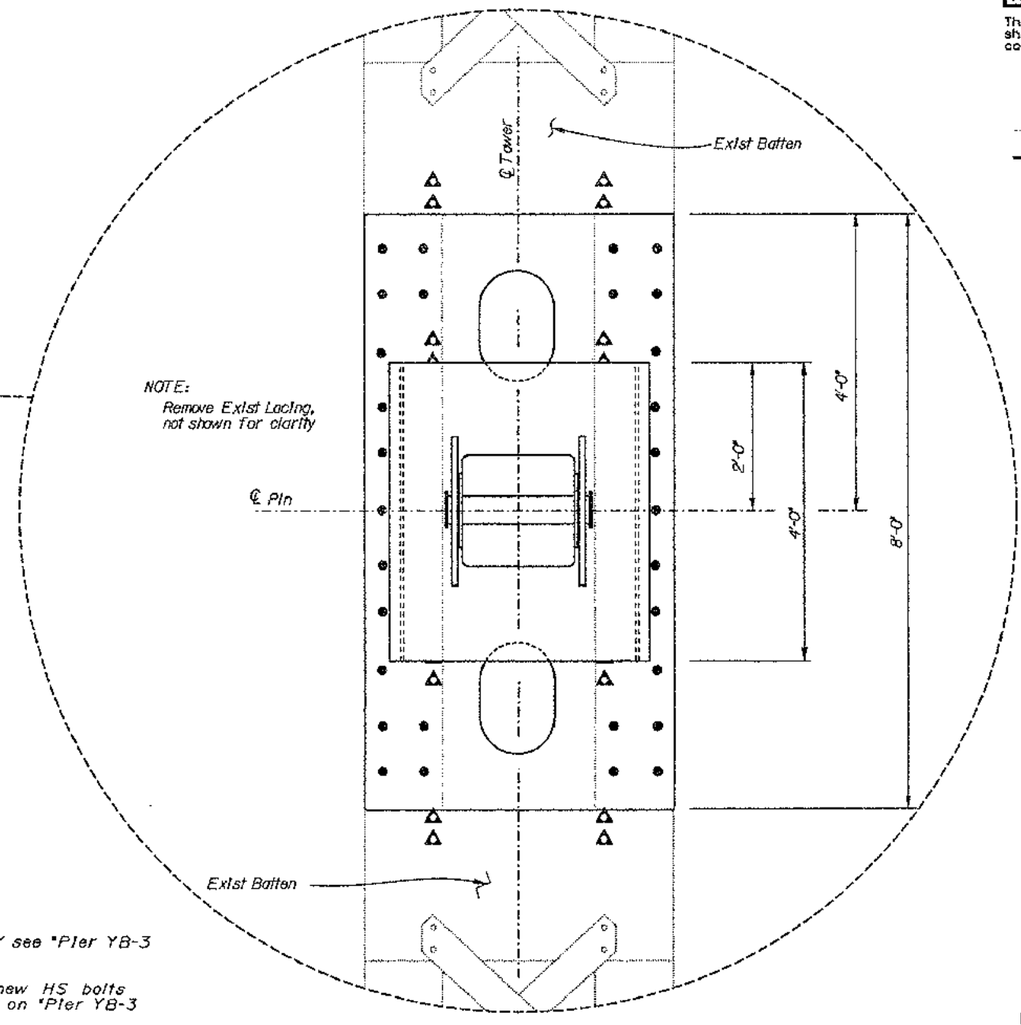
USERNAME => tmikes1
bepltl0tmd_09071025

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:21



ELEVATION

3/32" = 1'-0"



NOTES:

For 'View B-B' see "Pier YB-3 No. 3" sheet.

For layout of new HS bolts see 'View D-D' on "Pier YB-3 No. 3" sheet.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	79	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER
PER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

LEGEND

- Indicates existing structures.
- Indicates new construction.
- ● Indicates new 1" ϕ high strength bolts.
- △ Indicates existing 1" ϕ rivets to be removed and replaced with new 1" ϕ high strength bolts.
- ○ Indicates approx. location of existing rivets

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES YERBA BUENA ISLAND

SAN FRANCISCO-OAKLAND BAY BRIDGE

PIER YB-3 NO. 1

	BY	CHECKED
DESIGN	Fadel Alameddine	E. A. Morris
DETAILS	Janie Chiubno	E. A. Morris
QUANTITIES	Fadel Alameddine	E. A. Morris

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

CU 04
EA 043001

DS OSD 2139 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)
4-23-97 5-22-97 5-29-97 5-14-97 5-30-97 5-28-97 6-2-97 6-3-97 6-18-97

SHEET 11 OF 36

USERNAME => trmikesl
bepltitlyl_09071056

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:23

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	80	205

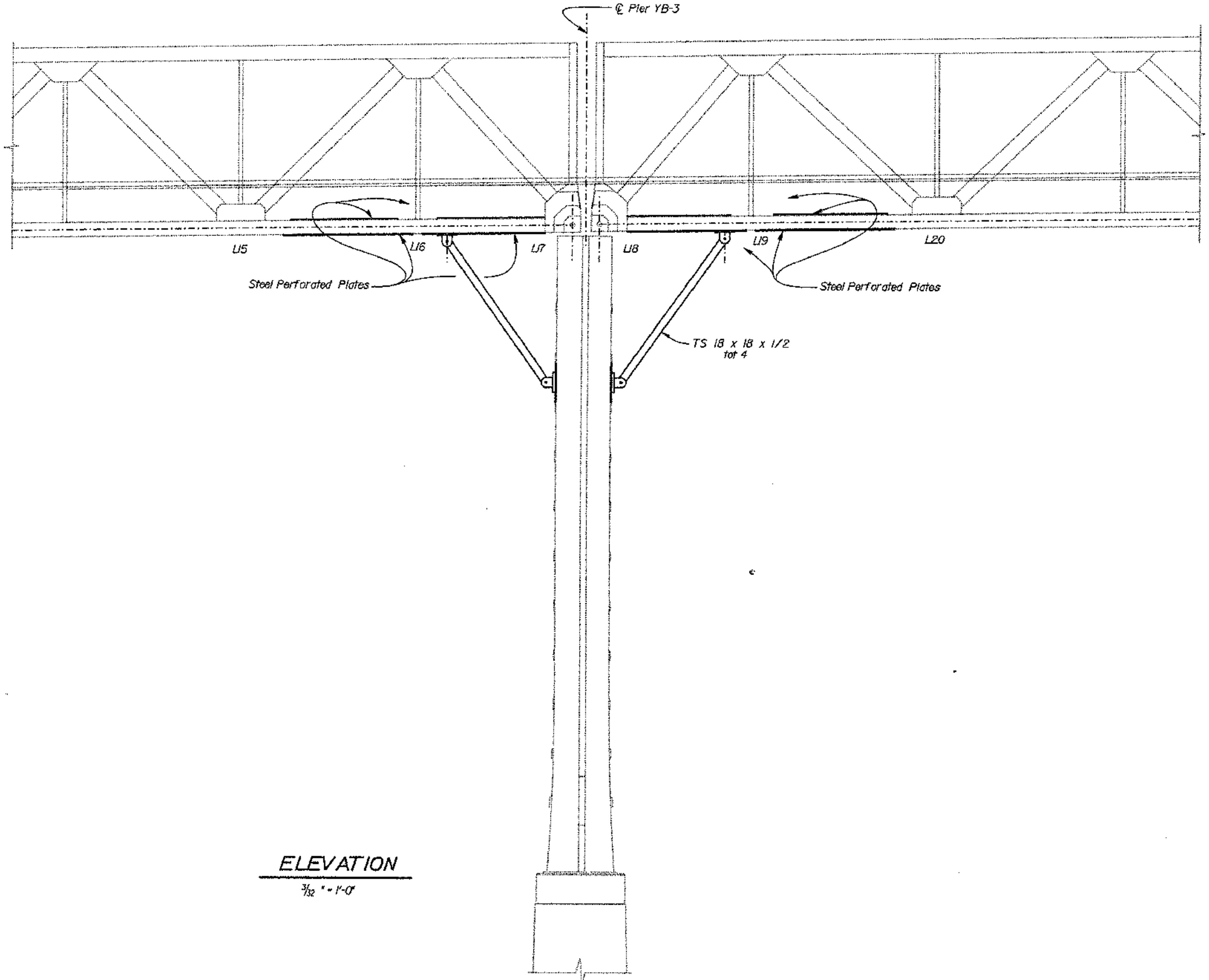
REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

LEGEND

- Indicates existing structures.
- Indicates new construction.



ELEVATION
3/32" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Fadel Alameddine	CHECKED E. A. Morris
DETAILS	BY Janie Chiubna	CHECKED E. A. Morris
QUANTITIES	BY Fadel Alameddine	CHECKED E. A. Morris

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER YB-3 NO. 2

DS OSD 2139 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 4-23-97, 5-5-97, 5-8-97, 5-19-97, 6-2-97, 6-26-97, 9-22-97

SHEET 12 OF 36

USERNAME => irmikesl
bepirl2ly2_09071059

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:25

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	81	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — PER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

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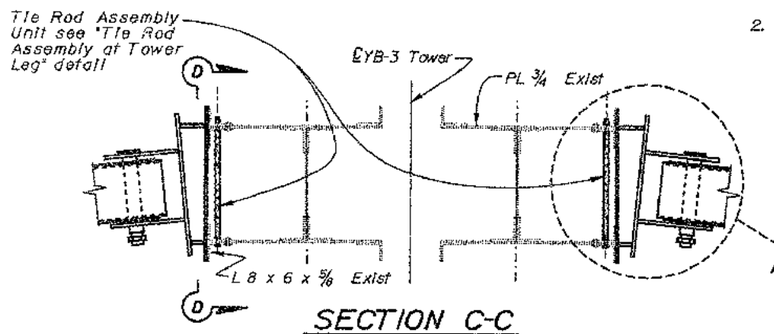
NOTES:

1. Place all Tie Rod Assembly Unit prior to removing any lacing on the Tower Member.

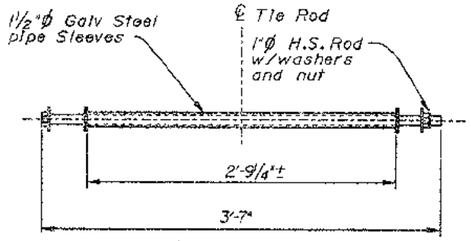
   Location of Tie Rod can be field adjusted, per Engineer's approval, to clear adjacent rivets and perforation.

   Work can be done simultaneously on all four Tower Members.

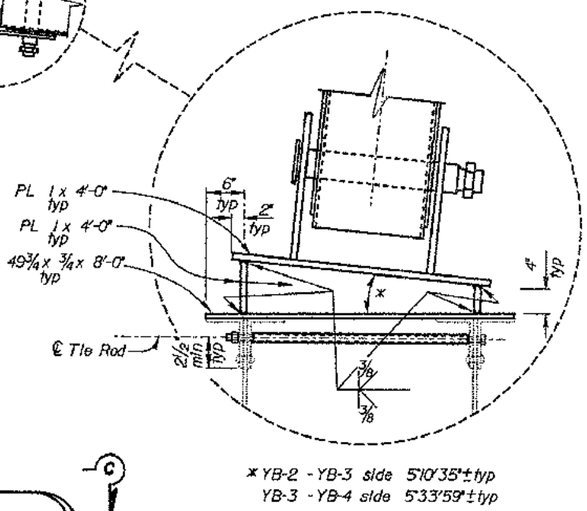
2. Install perforated plate following installation of all Tie Rods and completion of lace removal. Field drilling of perforated plates is permissible.



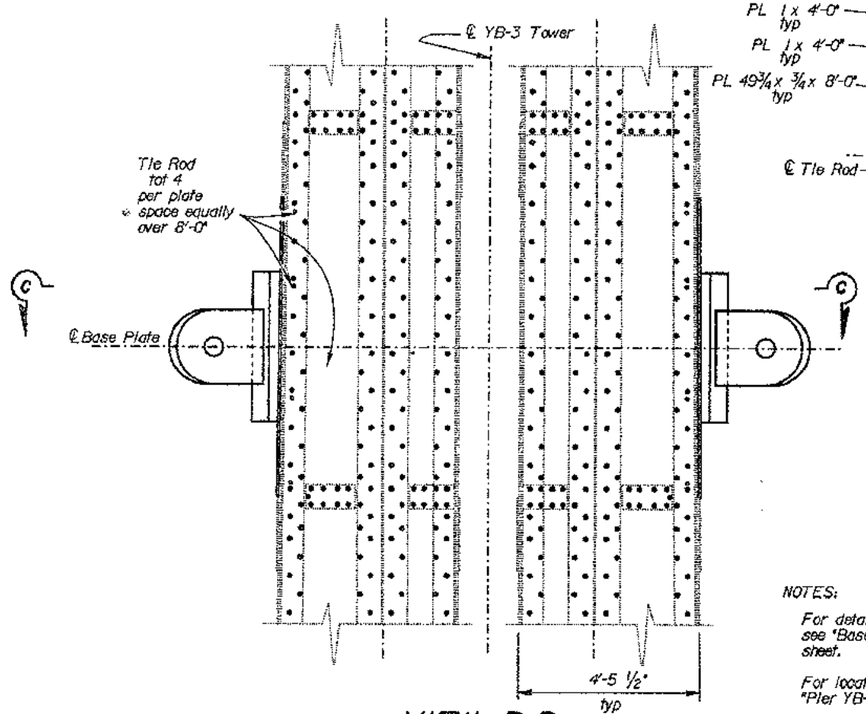
SECTION C-C
½" = 1'-0"



TIE ROD ASSEMBLY AT TOWER LEG
1½" = 1'-0"



*YB-2 - YB-3 side 5'10'35"± typ
YB-3 - YB-4 side 5'33'59"± typ

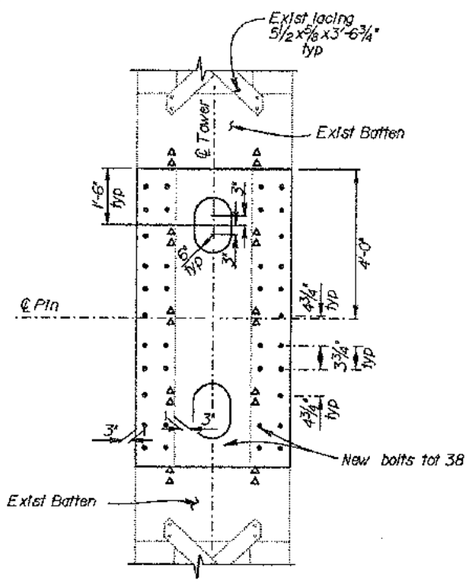


VIEW B-B
½" = 1'-0"

NOTES:

For details not shown see "Base Plate Details" sheet.

For location of "View B-B" see "Pier YB-3 No.1" sheet.



VIEW D-D
½" = 1'-0"

LEGEND

- ..... Indicates existing structures.
- ——— Indicates new construction.
- ● Indicates new 1" Ø high strength bolts.
- △ Indicates existing 1" Ø rivets to be removed and replaced with new 1" Ø high strength bolts.
- ○ Indicates approx. location of existing rivets.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES YERBA BUENA ISLAND

SAN FRANCISCO-OAKLAND BAY BRIDGE

PIER YB-3 NO. 3

	BY	CHECKED
DESIGN	Fadel Alomeddine	E. A. Morris
DETAILS	Janie Chiubno	E. A. Morris
QUANTITIES	Fadel Alomeddine	E. A. Morris

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)
5-2-97 | 5-13-97 | 5-19-97 | 5-26-97 | 9-22-97

SHEET 13 OF 36

DS 0SD 239 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

USERNAME => trmikesl
DEPTR131Y3_09071108

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:27

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:
1. For 'Section A-A' see "Tie Rod Assembly Unit Details" sheet.
2. For 'Base Plate' and 'Kicker' details see "Base Plate Details" sheet.
3. Location of Tie Rod may be field adjusted, per Engineer's approval, to clear adjacent rivets and perforation.
4. Laces are not shown for clarity.
5. For construction sequence see "TIE ROD ASSEMBLY UNIT DETAILS" sheet.

LEGEND

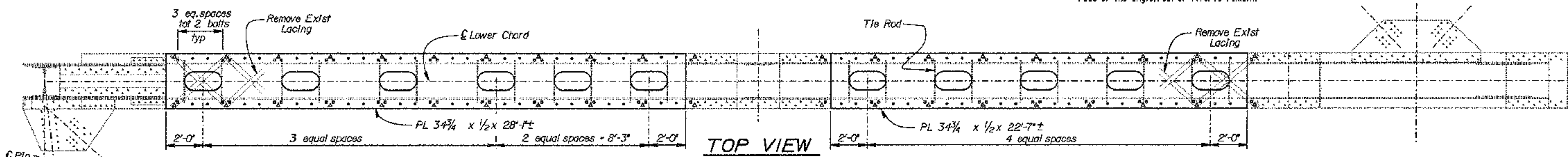
- - - - - Indicates existing structures.
——— Indicates new construction.
● Indicates new 1" ø high strength bolts.
△ Indicates existing 1" ø rivets to be removed and replaced with new 1" ø high strength bolts.
○ Indicates approx. location of existing rivets
◘ Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	82	205

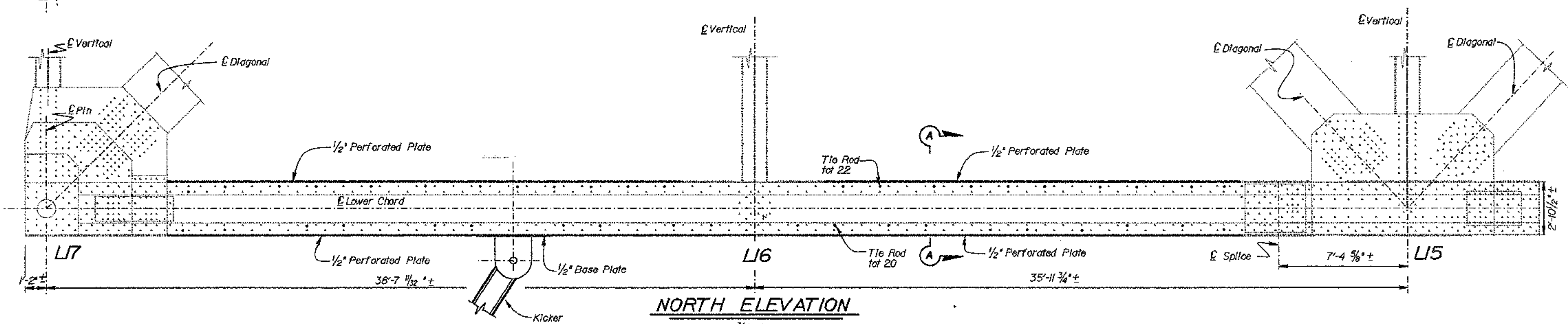
REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

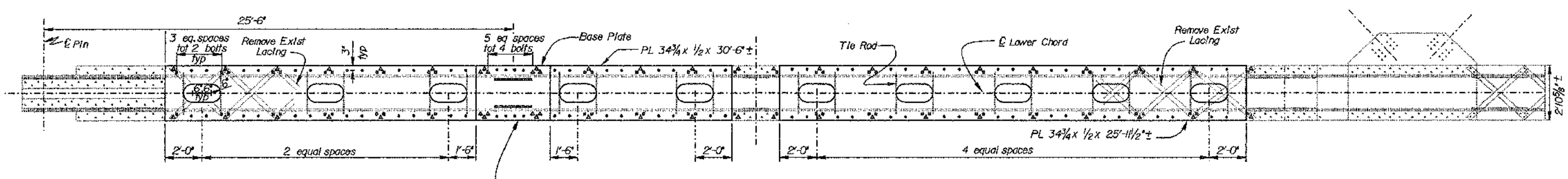
REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA



TOP VIEW



NORTH ELEVATION
⅜" = 1'-0"



PL 34¾ x ½ x 4'-0" see "Base Plate Details" sheet for details.

BOTTOM VIEW

DESIGN	BY Fadel Alameddine	CHECKED E. A. Morris
DETAILS	BY Janie Chiubna	CHECKED E. A. Morris
QUANTITIES	BY Fadel Alameddine	CHECKED E. A. Morris

STATE OF **CALIFORNIA**
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
LOWER CHORD L15-L17

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES (PRELIMINARY STAGE ONLY) 4-1-97 | 5-5-97 | 5-13-97 | 5-14-97 | 6-5-97 | 6-26-97 | 9-22-97 | 9-23-97

SHEET 14 OF 36

DS OSD 2132 (CADD 9/95)

USERNAME => trmikes!
bapir14dt(_09071154

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:29

NOTES:

For 'Section A-A' see 'Tie Rod Assembly Unit Details' sheet.

For 'Base Plate' and 'Kicker' details see 'Base Plate Details' sheet.

Location of Tie Rod may be field adjusted, per Engineer's approval, to clear adjacent rivets and perforation.

Laces are not shown for clarity.

For typical perforation dimensions see "Lower Chord L15-L17" sheet.

For construction sequence see 'TIE ROD ASSEMBLY UNIT DETAILS' sheet.

LEGEND

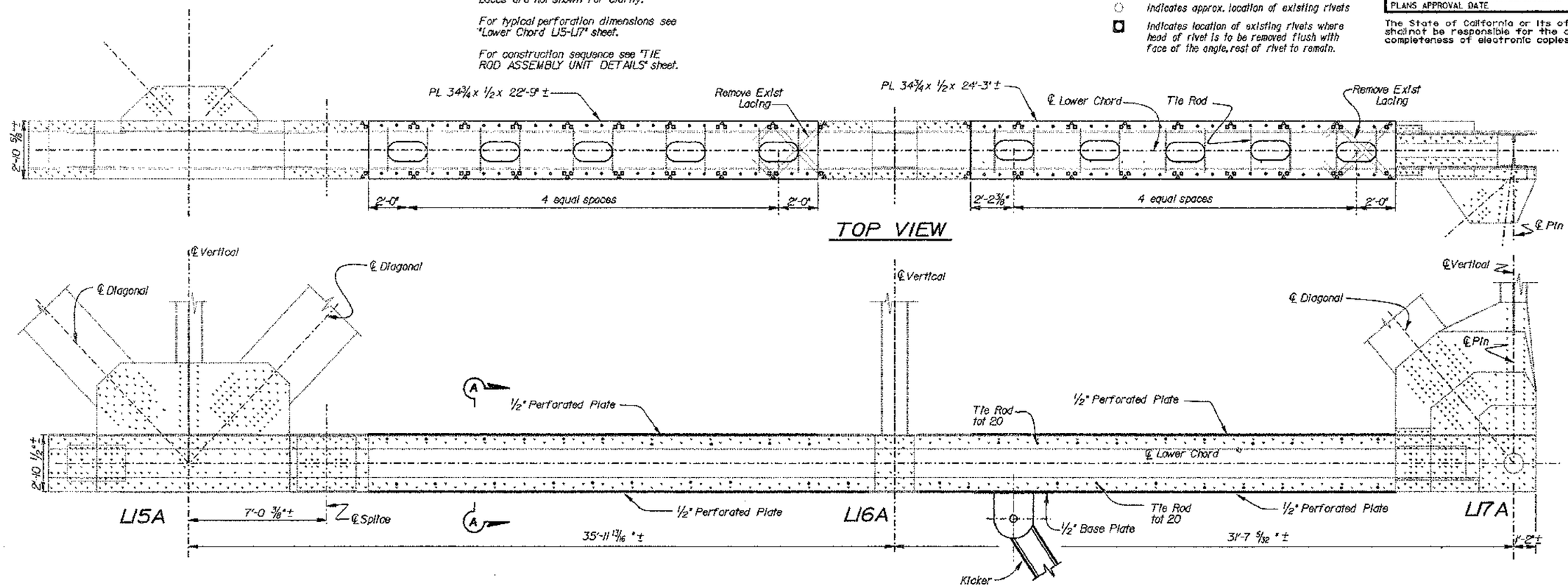
- Indicates existing structures.
- Indicates new construction.
- Indicates new 1" ϕ high strength bolts.
- Indicates existing 1" ϕ rivets to be removed and replaced with new 1" ϕ high strength bolts.
- Indicates approx. location of existing rivets
- Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	83	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DER-EU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

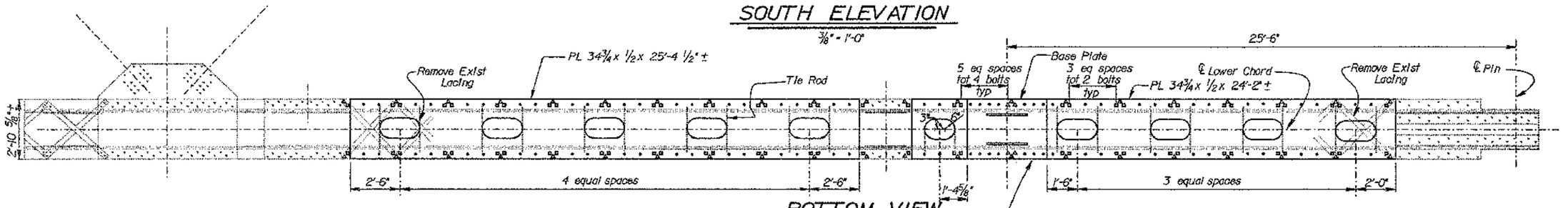
12-8-97
PLANS APPROVAL DATE



TOP VIEW

SOUTH ELEVATION

3/8" = 1'-0"



BOTTOM VIEW

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Fadel Alameddine	CHECKED E. A. Morris	
DETAILS	BY Janie Chiubna	CHECKED E. A. Morris	
QUANTITIES	BY Fadel Alameddine	CHECKED E. A. Morris	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
LOWER CHORD L15A-L17A

OS OSD 2159 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)
5-28-97 | 5-29-97 | 5-30-97 | 5-31-97 | 6-2-97 | 9-22-97

SHEET 15 OF 36

DATE PLOTTED => 9-DEC-1997
TIME PLOTTED => 07:32

USERNAME => trmikosi
beptr15dt2_09071224

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

For 'Section A-A' see "Tie Rod Assembly Unit Details" sheet.

For 'Base Plate' and 'Kicker' details see "Base Plate Details" sheet.

Location of Tie Rod may be field adjusted, per Engineer's approval, to clear adjacent rivets and perforation.

Laces are not shown for clarity.

For typical perforation dimensions see "Lower Chord L15-L17" sheet.

For construction sequence see "TIE ROD ASSEMBLY UNIT DETAILS" sheet.

LEGEND

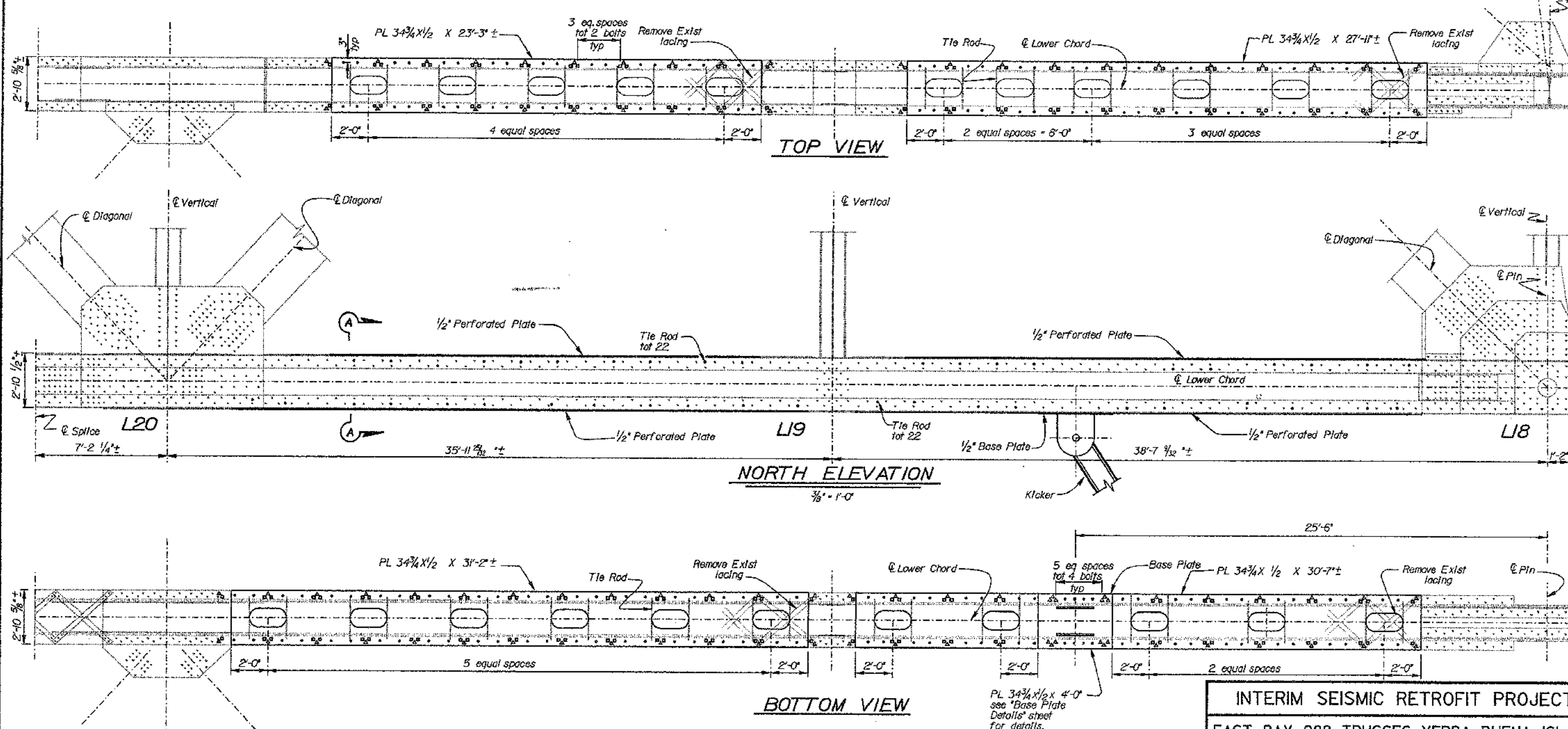
- (dotted line) Indicates existing structures.
- (solid line) Indicates new construction.
- (filled dot) Indicates new 1" ∅ high strength bolts.
- (triangle) Indicates existing 1" ∅ rivets to be removed and replaced with new 1" ∅ high strength bolts.
- (open circle) Indicates approx. location of existing rivets.
- (square) Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	84	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE



DESIGN	BY Fadel Alameddine	CHECKED E. A. Morris
DETAILS	BY Janie Chiubna	CHECKED E. A. Morris
QUANTITIES	BY Fadel Alameddine	CHECKED E. A. Morris

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
LOWER CHORD L18-L20

DS OSD 2138 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 4-17-97, 5-8-97, 5-13-97, 5-14-97, 6-5-97, 6-26-97, 9-22-97
REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 16 OF 36

USERNAME => trmlkosi
beplrl6dt3_0907131i

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:35

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	85	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

NOTES:

Existing painter's platform vertical legs (attached to top of lower chord L18A-L20A) not shown, shall be temporarily detached, supported and reinstalled as per Engineer's approval.

Existing pipe hangers (attached to bottom of lower chord L18A-L20A) not shown, shall be temporarily detached, supported and reinstalled as per Engineer's approval.

NOTES:

For 'Section A-A' see "Tie Rod Assembly Unit Details" sheet.

For 'Base Plate' and 'Kicker' details see "Base Plate Details" sheet.

Location of Tie Rod may be field adjusted, per Engineer's approval, to clear adjacent rivets and perforation.

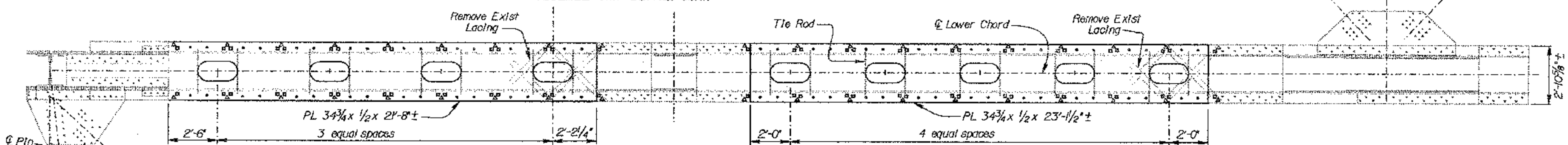
Laces are not shown for clarity.

For typical perforation dimensions see "Lower Chord L15-L17" sheet.

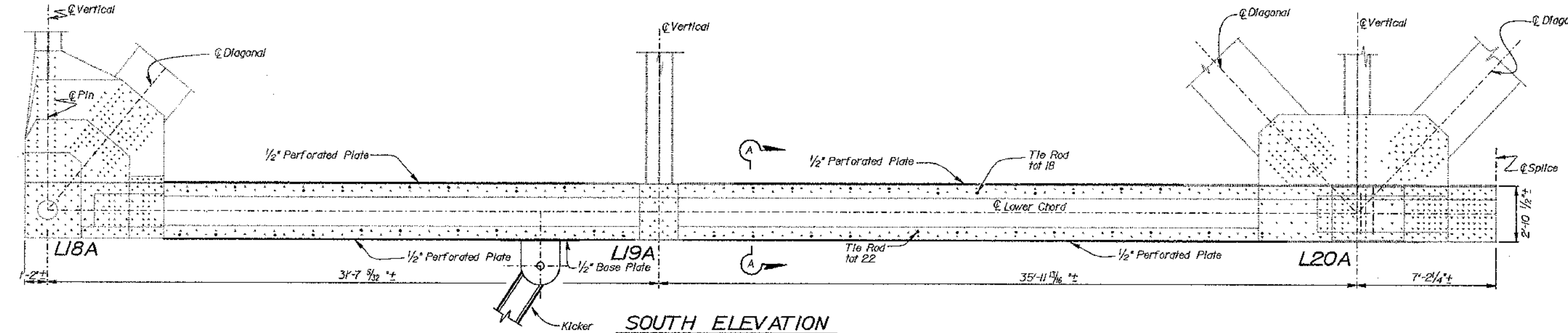
For construction sequence see "TIE ROD ASSEMBLY UNIT DETAILS" sheet.

LEGEND

- ········ Indicates existing structures.
- ——— Indicates new construction.
- ● Indicates new 1" Ø high strength bolts.
- △ Indicates existing 1" Ø rivets to be removed and replaced with new 1" Ø high strength bolts.
- ○ Indicates approx. location of existing rivets.
- ◘ Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.

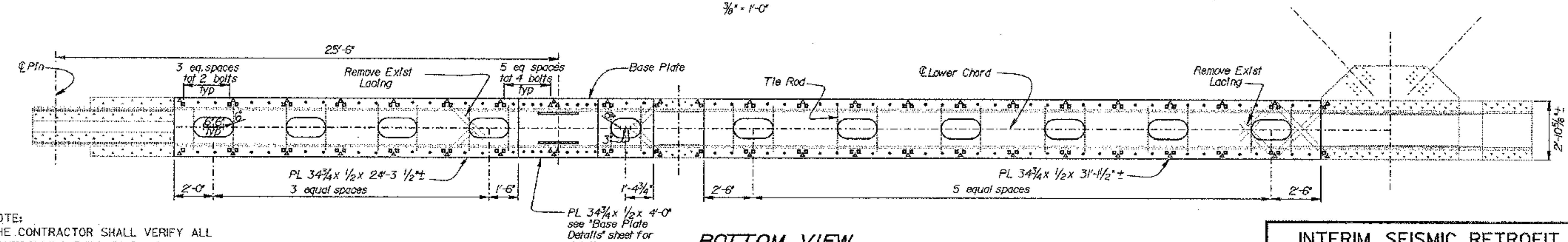


TOP VIEW



SOUTH ELEVATION

3/8" = 1'-0"



BOTTOM VIEW

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Fadel Alameddine	CHECKED E. A. Morris
DETAILS	BY Janie Chiubna	CHECKED E. A. Morris
QUANTITIES	BY Fadel Alameddine	CHECKED E. A. Morris

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
LOWER CHORD L18A-L20A

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 4-18-97, 5-5-97, 5-13-97, 5-14-97, 6-2-97, 6-3-97, 6-5-97, 6-25-97, 9-22-97

SHEET 17 OF 36

05 GEO 2539 (CADD 9/96)

USERNAME => tranndo
bop1r17dt4_09083802

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:24

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	86	205

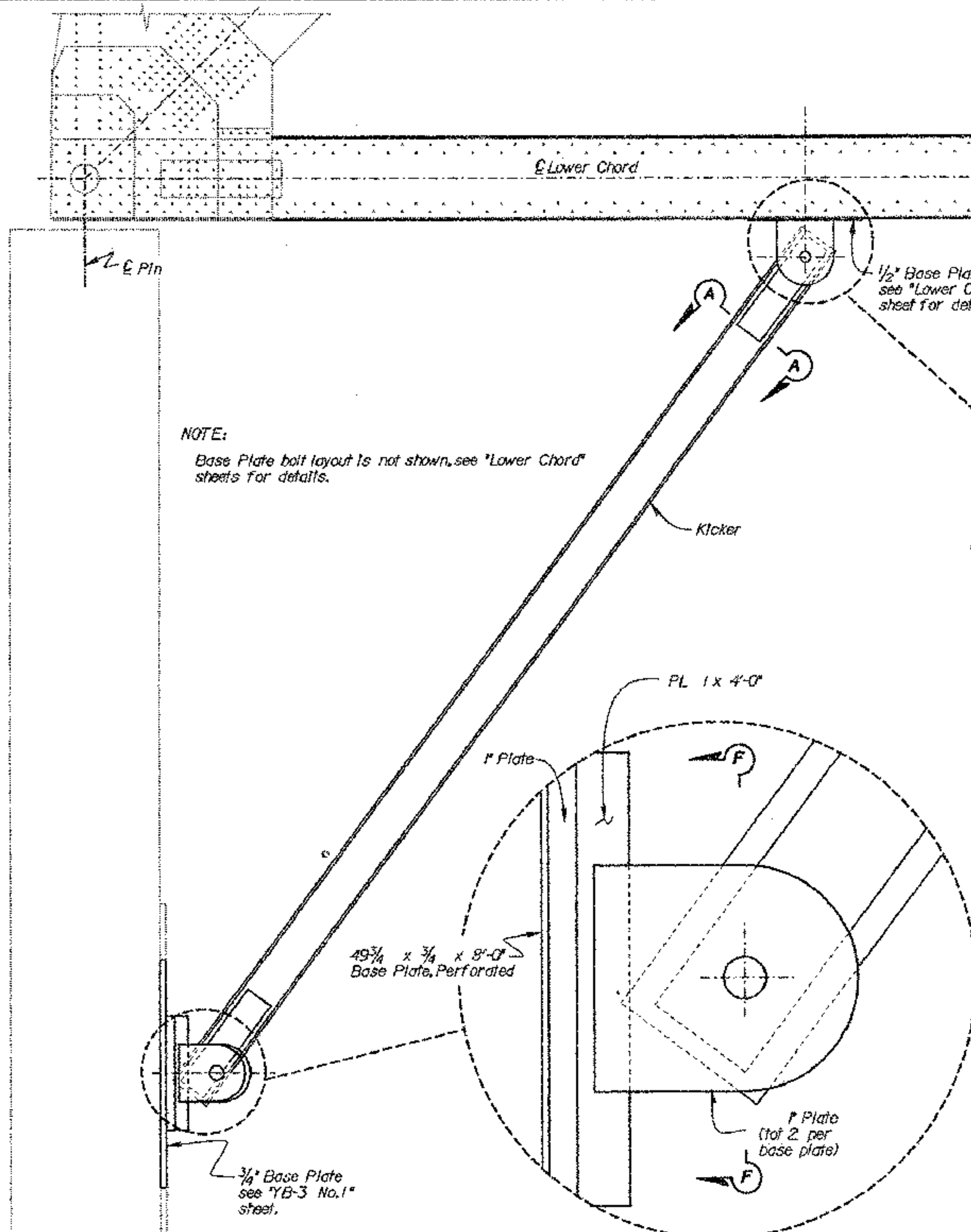
REGISTERED ENGINEER - CIVIL
October 21, 1997

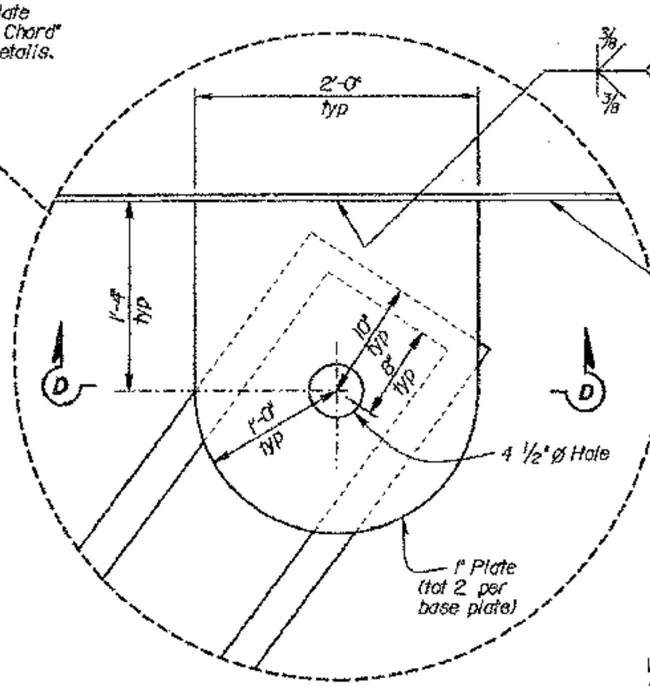
12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER · DER-FU DONALD LEE · No. 50978 · Exp. 9-30-01 · CIVIL · STATE OF CALIFORNIA

LEGEND

- Indicates existing structures.
- Indicates new construction.
- Indicates new 1" ∅ high strength bolts.
- Indicates existing 1" ∅ rivets to be removed and replaced with new 1" ∅ high strength bolts.
- Indicates approx. location of existing rivets
- Indicates location of existing rivets where head of rivet is to be removed flush with face of the angle, rest of rivet to remain.

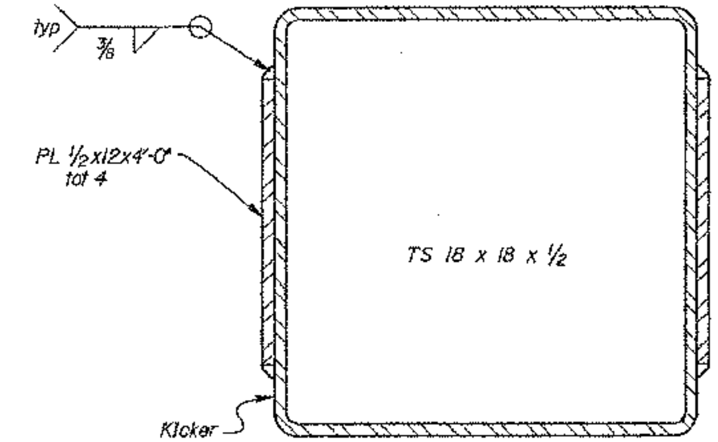




NOTE:
Base Plate bolt layout is not shown, see "Lower Chord" sheets for details.

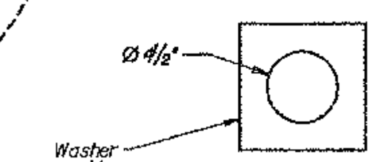
ELEVATION

3/8" = 1'-0"



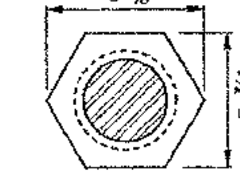
SECTION A-A

No Scale



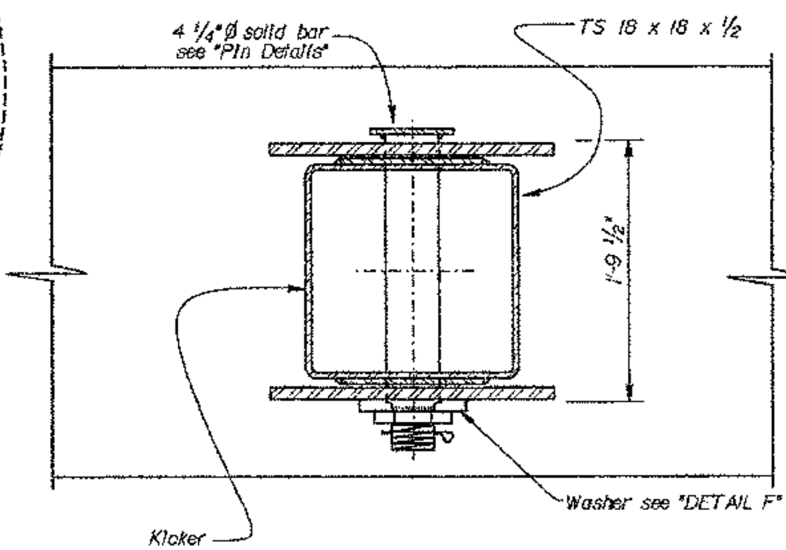
DETAIL F

2" = 1'-0"



SECTION E-E

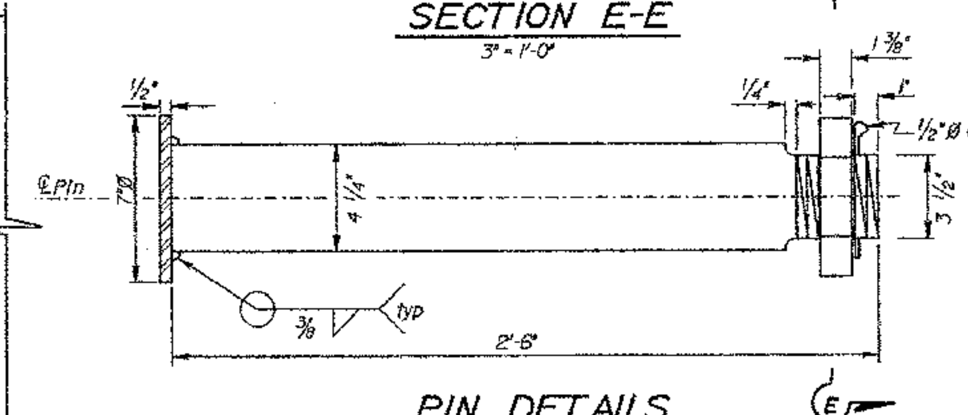
3" = 1'-0"



SECTION D-D

1 1/2" = 1'-0"

NOTE:
'Section D-D' shown 'Section F-F' similar



PIN DETAILS

3" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY	CHECKED
DESIGN	Fadel Alameddine	E. A. Morris
DETAILS	Jonia Chlubna	E. A. Morris
QUANTITIES	Fadel Alameddine	E. A. Morris

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
BASE PLATE DETAILS

DS OSD 2139 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 4-24-97, 12-13-97, 5-9-97, 5-14-97, 5-16-97, 5-30-97, 6-2-97, 6-27-97, 9-22-97

SHEET 18 OF 36

USERNAME => trannda
bep1r78d15_09083806

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:25

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	87	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

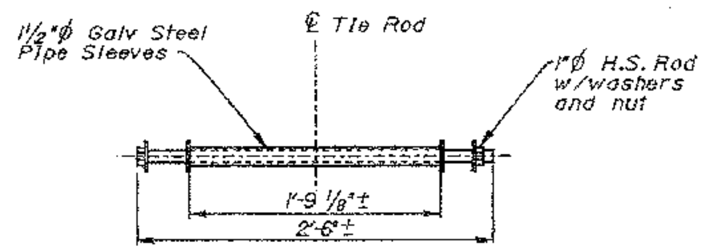
12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DER-RU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

LEGEND

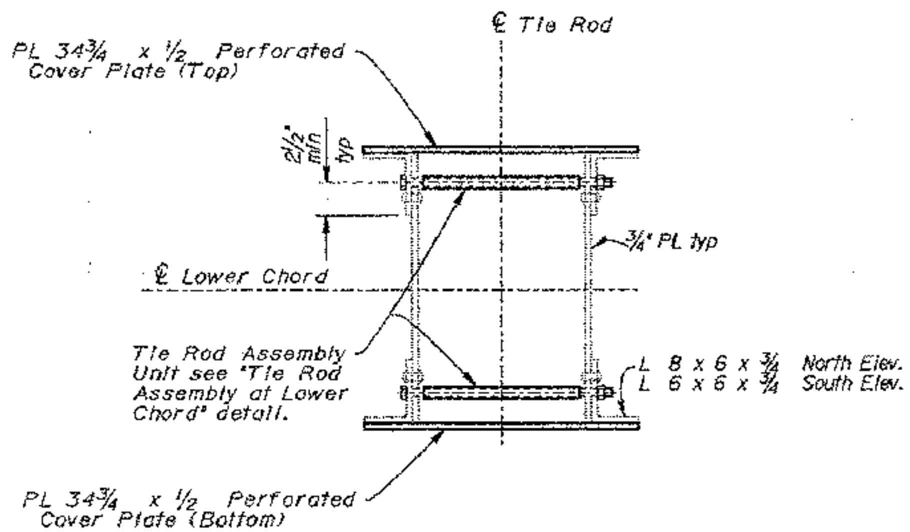
Indicates existing structures.

Indicates new construction.



TIE ROD ASSEMBLY AT LOWER CHORD

1½" = 1'-0"



SECTION A-A

1" = 1'-0"

For location of 'Section A-A' see "Lower Chord U5-U7", "Lower Chord U5A-U7A", "Lower Chord U8-L20" and "Lower Chord U8A-L20A" sheets.

Construction Sequence for Bottom Chord Retrofit:

1. Place all Tie Rod Assembly Units prior to removing any lace on the Lower Chord.

   Work may be done simultaneously on all four lower chords.

2. Install bottom perforated plate following installation of all Tie Rods and completion of bottom lace removal. Field drilling of perforated plates is permissible.

3. Install top perforated plate.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Fadel Alameddine	CHECKED E. A. Morris
DETAILS	BY Janie Chiubna	CHECKED E. A. Morris
QUANTITIES	BY Fadel Alameddine	CHECKED E. A. Morris

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGES SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
TIE ROD ASSEMBLY UNIT DETAILS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 5-6-97, 5-16-97, 5-19-97, 5-2-97, 5-30-97, 6-3-97, 6-27-97, 9-22-97, 9-23-97

SHEET 19 OF 36

DS OSD 2139 (CADD 8/95)

USERNAME => tronnda
bople19d+6_09083609

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:26

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	88	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

PROFESSIONAL ENGINEER REGISTERED
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

SEQUENCE FOR RETROFIT OF VERTICAL MEMBERS

1. Remove ladders, brackets, railings, platforms and other items attached to the vertical if they will interfere with the retrofit work. Provide temporary supports for utilities where necessary.
2. Drill all new 1¼" diameter holes on the inside flanges of the vertical.
3. Remove all rivets in Fastener Group "A" and the upper six rivets in Fastener Group "C". Replace rivets with 1" diameter A325 H.S. Bolts.
4. Remove all rivets in Fastener Group "B" and the upper six rivets in Fastener Group "D". Replace rivets with 1" diameter A325 H.S. Bolts.
5. Remove the lower nine rivets in Fastener Group "D" and the lower nine rivets in Fastener Group "C". Replace rivets with 1" diameter A325 H.S. Bolts. (except in L0-U0, L0-U0A, L8-U8, and L8-U8A which have ten rivets)
6. Remove all rivets in Fastener Groups "E1, "E2" and "E3". Remove existing floor beam bracket.
7. Remove all rivets in Fastener Group "F".
8. Remove all rivets in Fastener Groups "H1" and "H2". Remove inside existing filler plate between vertical and lower floor beam.
9. Place inside cover plate VCP1, filler plate VFP1, angle VA1W. Insert and tighten 1" diameter A325 H.S. Bolt Fastener Groups "F", "H1" and "K1W".
10. Remove all rivets in Fastener Group "G".
11. Place angle VA1E. Insert and tighten 1" diameter A325 H.S. Bolt Fastener Groups "G", "H2" and "K1E".
12. Place floor beam bracket assembly. Insert and tighten 1" diameter H.S. Bolt Fastener Groups "E1", "E2" and "E3".
13. Drill all new 1¼" diameter holes on the outside flanges of the vertical.
14. Remove all rivets in Fastener Groups "I1".
15. Place splice plates VSP1W and VSP2W. Insert and tighten 1" diameter A325 H.S. Bolt Fastener Group "I1".
16. Remove all rivets in Fastener Groups "J1".
17. Place Splice VSP1E and VSP2E. Insert and tighten 1" diameter A325 H.S. Bolt Fastener Group "J1".
18. Place outside cover plate VCP2, filler plate VFP2, angle VA2W and VA2E. Insert and tighten 1" diameter A325 H.S. Bolt Fastener Groups "I2", "J2", "K2E", and "K2W".
19. Weld all stiffener plates to angle pairs VA1W/VA1E and VA2W/VA2E with ¼" fillet weld.
20. Place perforated plates VPCPW and VPCPE. Insert and tighten 1" diameter A325 H.S. Bolts along entire length of both plates.
21. Replace all utilities on new cover plates by making adjustments as required and as approved by the Engineer.

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side

Notes:

1. For Fastener Group (F.G.) identities, see "Miscellaneous Details No. 4" sheet.
2. If conflict arises in the local sequence stated above, the Contractor shall submit an explanation and a proposed alternative to the Engineer, in writing, for approval prior to altering the sequence.

GLOBAL SEQUENCE FOR RETROFIT OF VERTICAL MEMBERS

1. Work may be performed on both vertical members simultaneously on one side of each 288 ft truss. Work may be performed on all trusses simultaneously.
2. Work may not proceed on the North and South sides simultaneously. Before work activities begin on the second side, all work on the first side must be completed. For the work to be considered complete, the 21-step sequence must be completed on both vertical members on the same side of the truss.
3. Before a construction recess longer than 6 hours, all existing rivets that have been removed must be replaced with new bolts, and all new holes must be plugged with new bolts.

	BY		CHECKED	
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

DS OSD 2139 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

CU 04
EA 043001

BRIDGE NO. 33-0025
POST MILE 1.5

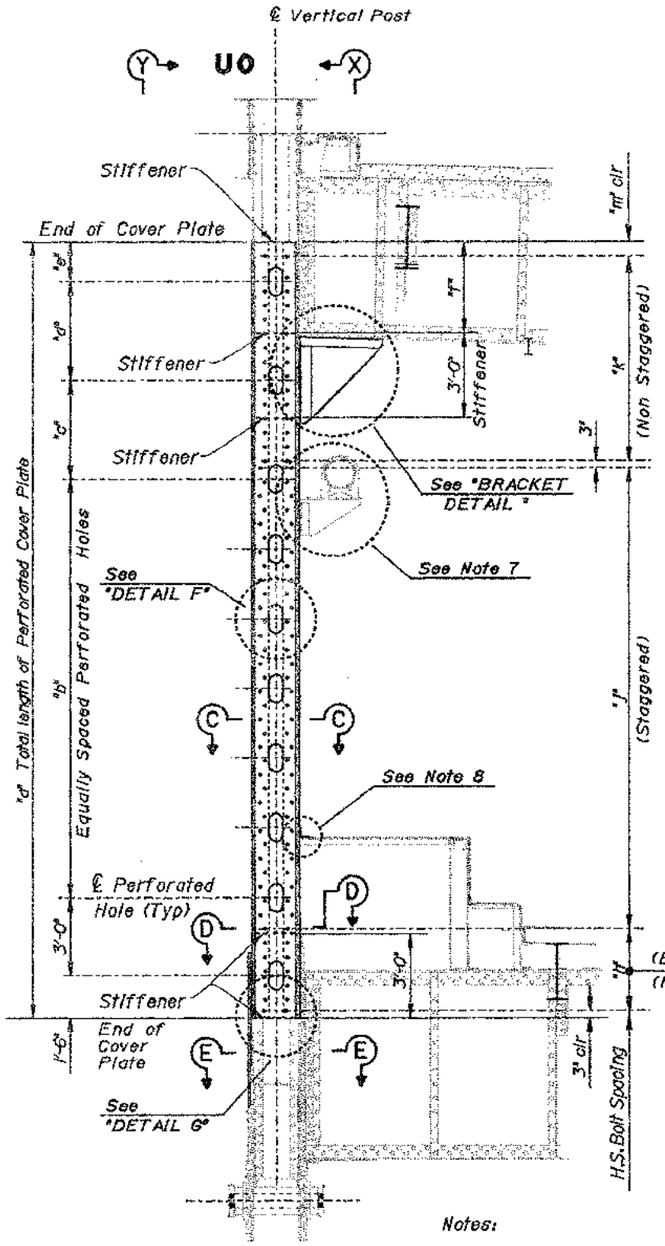
INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
VERTICAL MEMBER RETROFIT MISCELLANEOUS NOTES

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES (PRELIMINARY STAGE ONLY): 5-9-97, 6-2-97, 5-23-97, 10-3-97, 10-7-97, 10-22-97, 10-23-97

SHEET 20 OF 36

USERNAME => trannda
bop1r20vmr_09083816

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:27

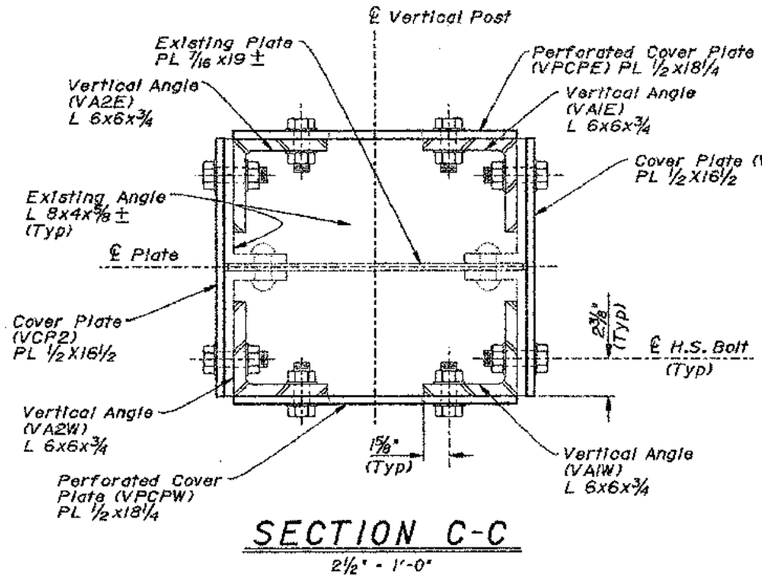


PART TYPICAL

3/8" = 1'-0"

Notes:

1. VPCPW side shown VPCPE side similar.
2. See "VIEW Y-Y" for beginning limit of cover plate.



SECTION C-C

2 1/2" = 1'-0"

PART TYPICAL AT NORTH VERTICAL TRUSS (VPCPW) (VPCPE)

LOCATION	PERFORATED COVER PLATE LIMITS					H.S. BOLT LIMITS			STIFFENER LIMITS	EDGE DISTANCE
	"a" (ft)	"b" (spaces)	"c" (ft)	"d" (ft)	"e" (ft)	"h" (spaces)	"j" (spacing)	"k" (spacing)	"f" (ft)	"m" (in)
YB1										
L0-U0	25'-2 3/4"	5	3'-3"	3'-0"	1'-6"	5	32 @ 6"	12 @ 6"	3'-1 1/2"	2 1/4"
YB2										
L8-U8	25'-7 1/4"	5	4'-0"	3'-0"	1'-6"	6	32 @ 6"	12 @ 6"	3'-1 1/2"	2 1/4"
L9-U9	26'-4 1/2"	5	3'-9"	3'-0"	1'-6"	8	32 @ 6"	12 @ 6"	3'-1 1/2"	2 1/4"
YB3										
L17-U17	27'-8 1/2"	6	3'-6"	2'-9"	1'-3"	7	36 @ 6"	11 @ 6"	2'-7 1/2"	1 3/4"
L18-U18	27'-9"	6	3'-6"	2'-9"	1'-3"	7	36 @ 6"	11 @ 6"	2'-6"	1 3/4"
YB4										
L26-U26	27'-8 1/4"	6	3'-6"	2'-9"	1'-3"	7	36 @ 6"	11 @ 6"	2'-7"	1 3/4"
L27-U27	27'-9"	6	3'-6"	2'-9"	1'-3"	7	36 @ 6"	11 @ 6"	2'-6"	1 3/4"
E1										
L35-U35	26'-2 1/4"	5	3'-8"	3'-0"	1'-6"	7	32 @ 6"	12 @ 6"	3'-1 1/2"	2 1/4"

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alg	80	7.8/8.9, 0.0/1.1	89	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

LEGEND

- ..... indicates existing structures.
- ——— indicates new structures.
- ● indicates new 1"ϕ high strength bolts in 1 1/4"ϕ hole.
- △ indicates existing 1"ϕ rivets to be removed and replaced with new 1" ϕ high strength bolts in existing 1 1/16"ϕ hole.
- ○ indicates approx. location of existing rivets.

ANNOTATION

VAIE	Vertical Angle, Deck side and East side
VAIW	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side

Notes:

1. For "VIEW X-X" see "VERTICAL MEMBER DETAIL NO. 2 (NORTH)" sheet.
2. For "VIEW Y-Y" see "VERTICAL MEMBER DETAIL NO. 3 (NORTH)" sheet.
3. For "SECTION D-D", "SECTION E-E" and "DETAIL F" see "MISCELLANEOUS DETAILS NO. 1" sheet.
4. For "DETAIL G" see "MISCELLANEOUS DETAILS NO. 3" sheet.
5. For "BRACKET DETAIL" see "MISCELLANEOUS DETAILS NO. 2" sheet.
6. For "STIFFENER DETAIL" see "MISCELLANEOUS DETAILS NO. 1" sheet.
7. For Temporary Utility Relocation see Road Plans.
8. For barrier temporary removal see "BARRIER DETAILS NO. 1" sheet. Platform brackets shall be temporarily removed as required and modified to accomodate new Cover Plate as per Engineer's approval.
9. Staggered Bolt pattern on VPCPW and VPCPE shall be installed so as not to intefere with adjacent VCP1 and VCP2.
10. For Installation Sequence see "VERTICAL MEMBER RETROFIT MISCELLANEOUS NOTES" sheet.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
VERTICAL MEMBER DETAIL NO. 1 (NORTH)

DESIGN	BY Gerrard Hight 5-97	CHECKED E.A. Morris 5-97	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Ralph Nakaoka 5-97	CHECKED Don Lee 5-97	DIVISION OF STRUCTURES STRUCTURE DESIGN TOLL BRIDGE SPECIAL ANALYSIS
QUANTITIES	BY E.A. Morris 5-97	CHECKED Don Lee 5-97	CU 04 EA 043001

BRIDGE NO. 33-0025 POST MILE 1.5

DS 050 2039 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 5-30-97 10-2-97 5-30-97 6-30-97 6-30-97 8-29-97 9-29-97

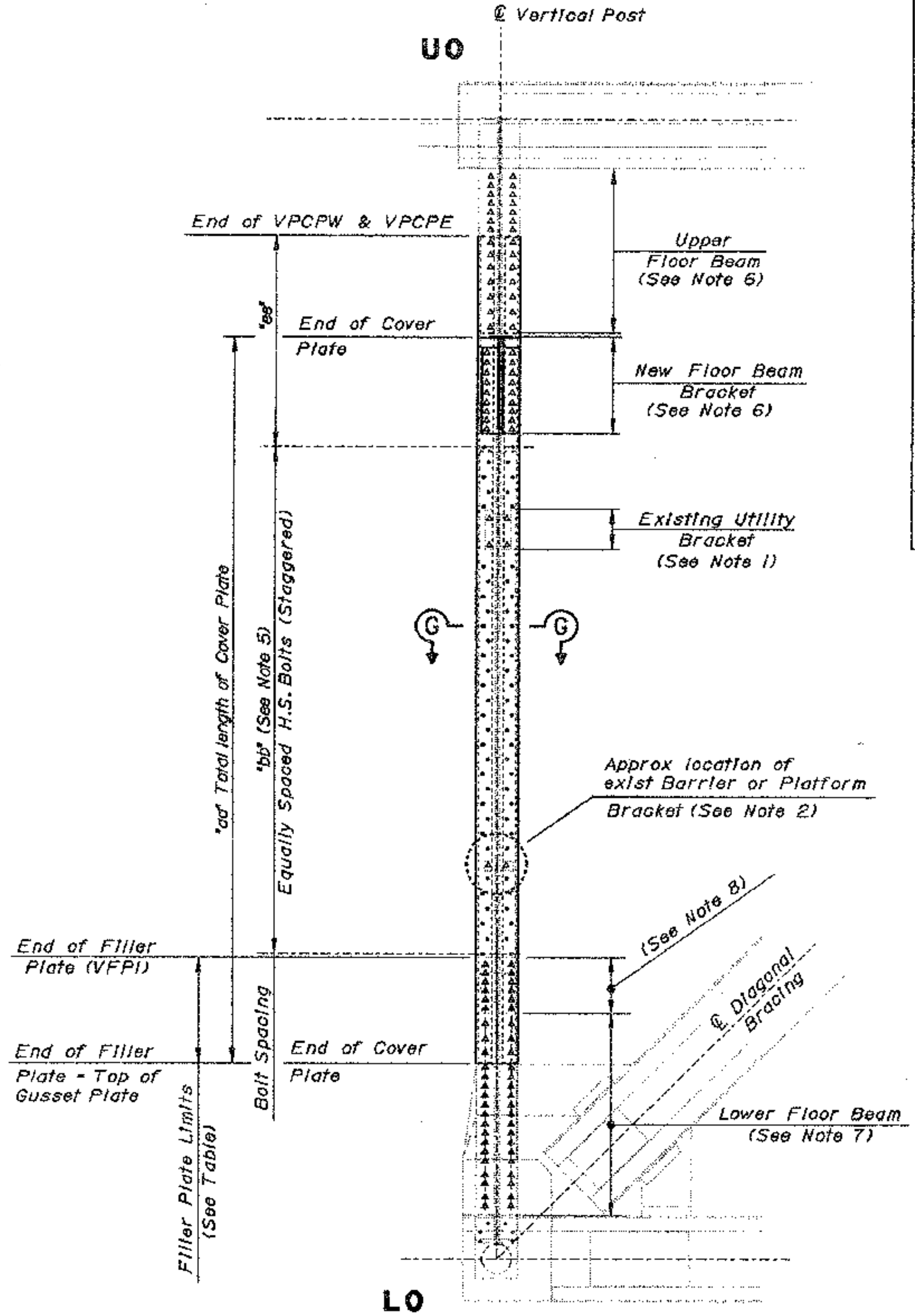
SHEET 21 OF 36

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:27

USERNAME => trennda
bapir21dtl_09083820

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	90	205

REGISTERED ENGINEER CIVIL
October 21, 1997
12-8-97
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER DER-FU DONALD LEE No. 50978 Exp. 9-30-01 CIVIL STATE OF CALIFORNIA



(VCP1)

VIEW X-X

3/8" = 1'-0"

PART TYPICAL AT NORTH VERTICAL TRUSS (VCP1)

LOCATION	COVER PLATE "aa" (ft)	H.S. BOLT LIMITS "bb" (spacing)	H.S. BOLT LIMITS "ee" (ft)	FILLER PLATE LIMITS* PLATE (VFP1)
YB1				
L0-U0	22'-2½"	31 @ 6"	6'-8¼"	5/16x16½x2'-9"
YB2				
L8-U8	22'-6¾"	32 @ 6"	6'-8¼"	5/16x16½x2'-9"
L9-U9	23'-3¾"	32 @ 6"	6'-8¼"	¼x16½x3'-4¾"
YB3				
L17-U17	25'-1¼"	36 @ 6"	6'-1¾"	¼x16½x3'-4¾"
L18-U18	25'-3¼"	36 @ 6"	6'-1¾"	¼x16½x3'-4¾"
YB4				
L26-U26	25'-1¾"	36 @ 6"	6'-1¾"	¼x16½x3'-4¾"
L27-U27	25'-3"	36 @ 6"	6'-1¾"	¼x16½x3'-4¾"
E1				
L35-U35	23'-1½"	31 @ 6"	6'-8¼"	¼x16½x3'-4¾"

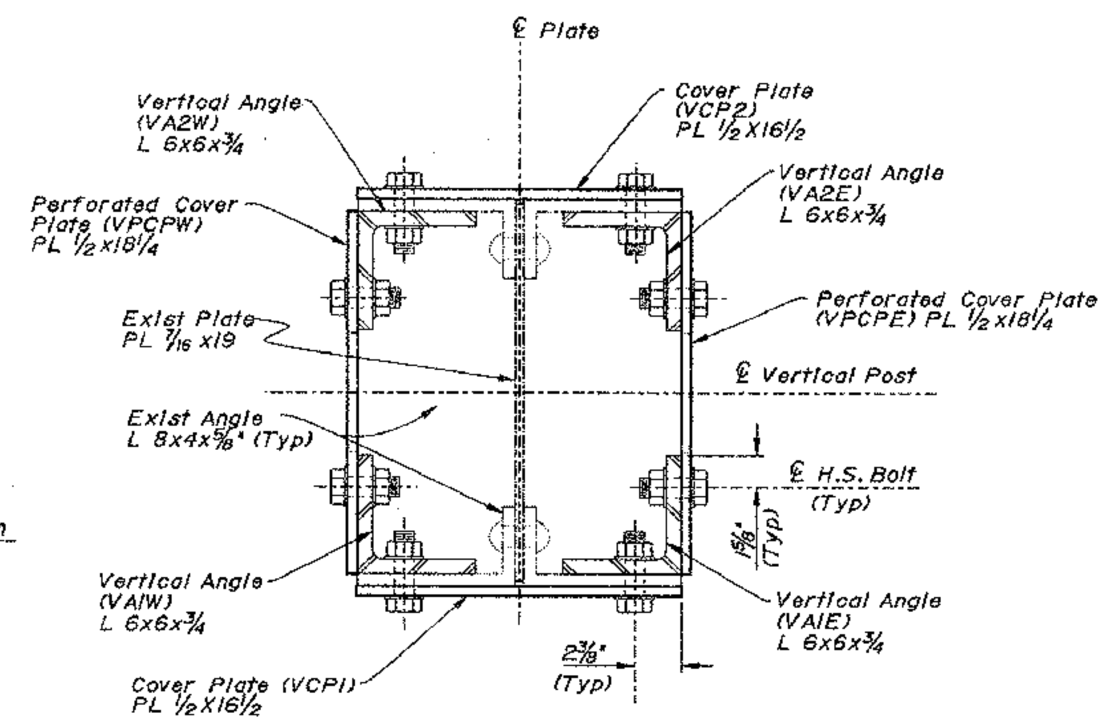
*See Note 4

LEGEND

- (dotted line) Indicates existing structures.
- (solid line) Indicates new structures.
- ● Indicates new 1"ø high strength bolts in 1¼"ø hole.
- △ Indicates existing 1"ø rivets to be removed and replaced with new 1"ø high strength bolts in existing 1 1/16"ø hole.
- ○ Indicates approx. location of existing rivets.

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side



SECTION G-G

2½" = 1'-0"

Notes:

1. For Temporary Utility Relocation see Road Plans.
2. For barrier temporary removal see "BARRIER DETAILS NO. 1" sheet. Platform brackets shall be temporarily removed as required and modified to accomodate new Cover Plate as per Engineer's approval.
3. For Installation Sequence see "VERTICAL MEMBER RETROFIT MISCELLANEOUS NOTES" sheet.
4. Existing Filler Plate shall be replaced with a new Filler Plate, into same location to accomodate new Cover Plate.
5. Existing abandoned utility holes shall be used when possible in place of new 1¼"diameter holes.
6. Upper Floor Beam has a total of 30 existing rivets except for "L17-U17, "L18-U18", L26-U26" and "L27-U27, which have 28 rivets. The existing Floor Beam Bracket has 18 existing rivets.
7. Lower Floor Beam has a total of 36 existing rivets.
8. Existing Filler Plates have 12 existing rivets.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY		CHECKED	
DESIGN	Gerrard Hight	5-97	E.A. Morris	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
VERTICAL MEMBER DETAIL NO. 2 (NORTH)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) 5-1-97 10-2-97 5-28-97 6-2-97 6-3-97 6-10-97 6-25-97 6-27-97 9-12-97

SHEET 22 OF 36

DS OSD 2139 (CADD 3/95)

USERNAME => tronndo
bap1r22d12_09083827

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:28

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	91	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

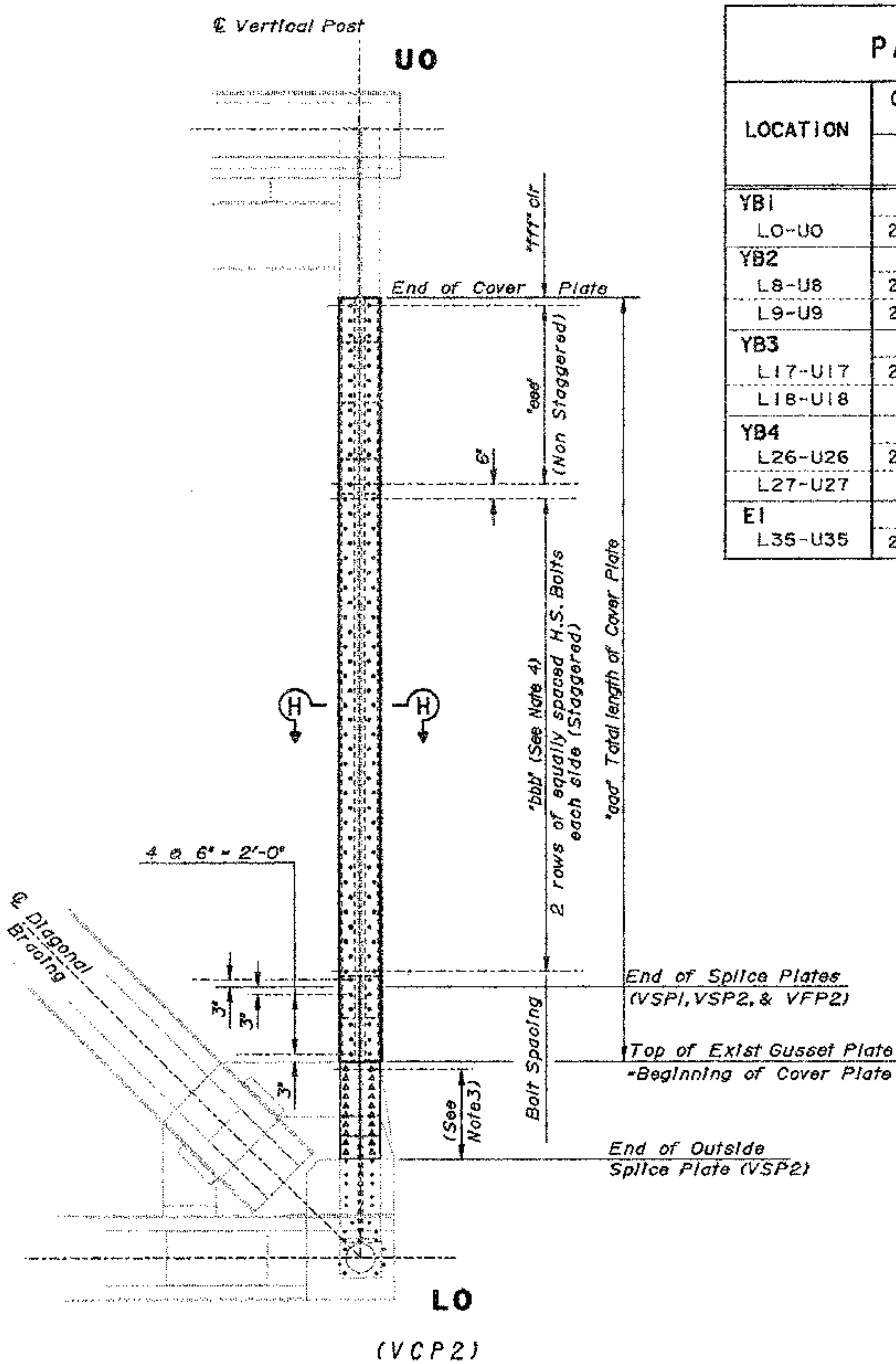
PROFESSIONAL ENGINEER — REGISTERED — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

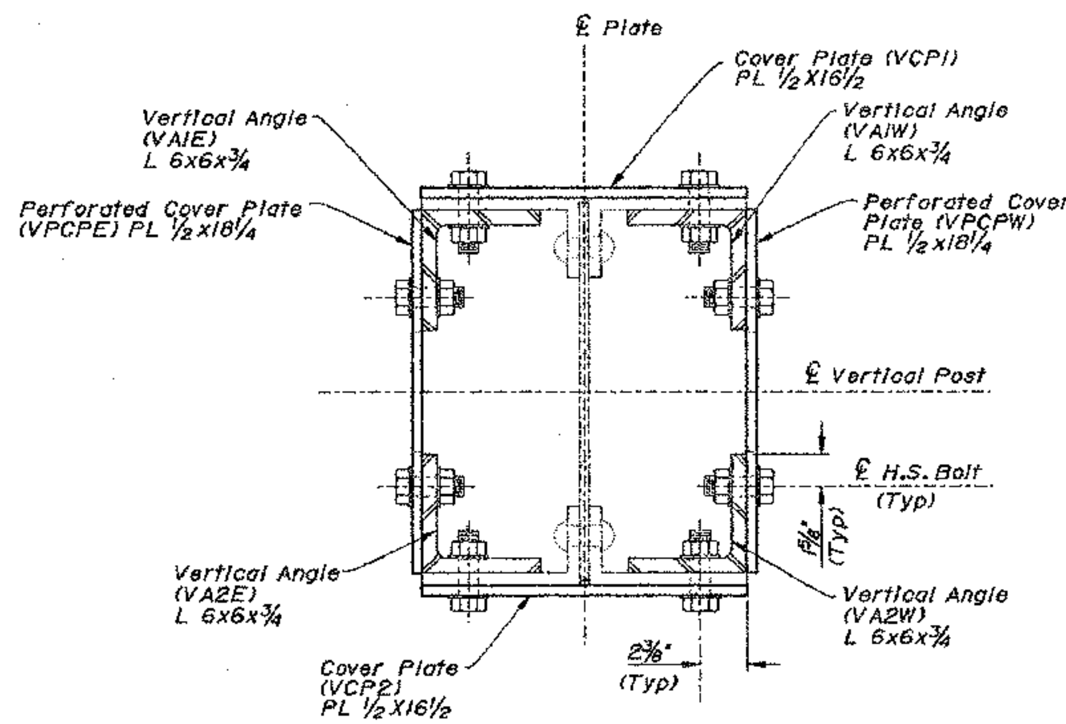
PART TYPICAL AT NORTH VERTICAL TRUSS (VCP2)

LOCATION	COVER PLATE "aaa" (ft)	H.S. BOLT LIMITS "bbb" (spaces)	H.S. BOLT LIMITS "eee" (spaces)	EXISTING EDGE DISTANCE "fff" (in)	SPLICE PLATE LIMITS: OUTSIDE PLATE* (VSP2)	SPLICE PLATE LIMITS: MIDDLE PLATE* (VSP1)	SPLICE PLATE LIMITS: FILLER PLATE (VFP2)
YB1							
L0-U0	25'-2¾"	31 @ 6"	12 @ 6"	2¼"	¾x8¼x6'-8⅝"	⅝x8¼x4'-8½"	¼x16½x2'-6"
YB2							
L8-U8	25'-7¼"	32 @ 6"	12 @ 6"	2¼"	¾x8¼x6'-8¾"	⅝x8¼x4'-8½"	¼x16½x2'-6"
L9-U9	26'-4½"	33 @ 6"	12 @ 6"	2¼"	¾x8¼x6'-1"	¾x8¼x4'-8¼"	¼x16½x2'-6"
YB3							
L17-U17	27'-8½"	37 @ 6"	11 @ 6"	1¾"	¾x8¼x6'-1"	¾x8¼x4'-4½"	¼x16½x2'-6"
L18-U18	27'-9"	37 @ 6"	11 @ 6"	1¾"	¾x8¼x6'-1"	¾x8¼x4'-4½"	¼x16½x2'-6"
YB4							
L26-U26	27'-8¼"	37 @ 6"	11 @ 6"	1¾"	¾x8¼x6'-1"	¾x8¼x4'-4½"	¼x16½x2'-6"
L27-U27	27'-9"	37 @ 6"	11 @ 6"	1¾'	¾x8¼x6'-1"	¾x8¼x4'-4½"	¼x16½x2'-6"
E1							
L35-U35	26'-2¼"	33 @ 6"	12 @ 6"	2¼"	¾x8¼x6'-1"	¾x8¼x4'-4½"	¼x16½x2'-6"

*2 plates per location



VIEW Y-Y
3/8" = 1'-0"



SECTION H-H
2½" = 1'-0"

LEGEND

- ------ Indicates existing structures.
- —— Indicates new structures.
- ● Indicates new 1"ϕ high strength bolts in 1¼"ϕ hole.
- ▲ Indicates existing 1"ϕ rivets to be removed and replaced with new 1"ϕ high strength bolts in existing 1 1/16"ϕ hole.
- ○ Indicates approx. location of existing rivets.

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side

Notes:

1. For Temporary Utility Relocation see Road Plans.
2. For barrier temporary removal see "BARRIER DETAILS NO. 1" sheet. Platform brackets shall be temporarily removed as required and modified to accomodate new Cover Plate as per Engineer's approval.
3. Total of 22 existing rivets to be removed, except at L0-U0 and L8-U8 which have 24 existing rivets.
4. Existing abandoned utility holes shall be used when possible in place of new 1¼" diameter holes.
5. For Installation Sequence see "VERTICAL MEMBER RETROFIT MISCELLANEOUS NOTES" sheet

	BY		CHECKED	
DESIGN	Gerrard Hight	5-97	E.A. Morris	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
VERTICAL MEMBER DETAIL NO. 3 (NORTH)

DS OSD 2D9 (CADD 3/95)
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) 5-2-97 5-24-97 5-28-97 6-2-97 6-6-97 6-20-97 6-27-97 9-22-97 10-2-97

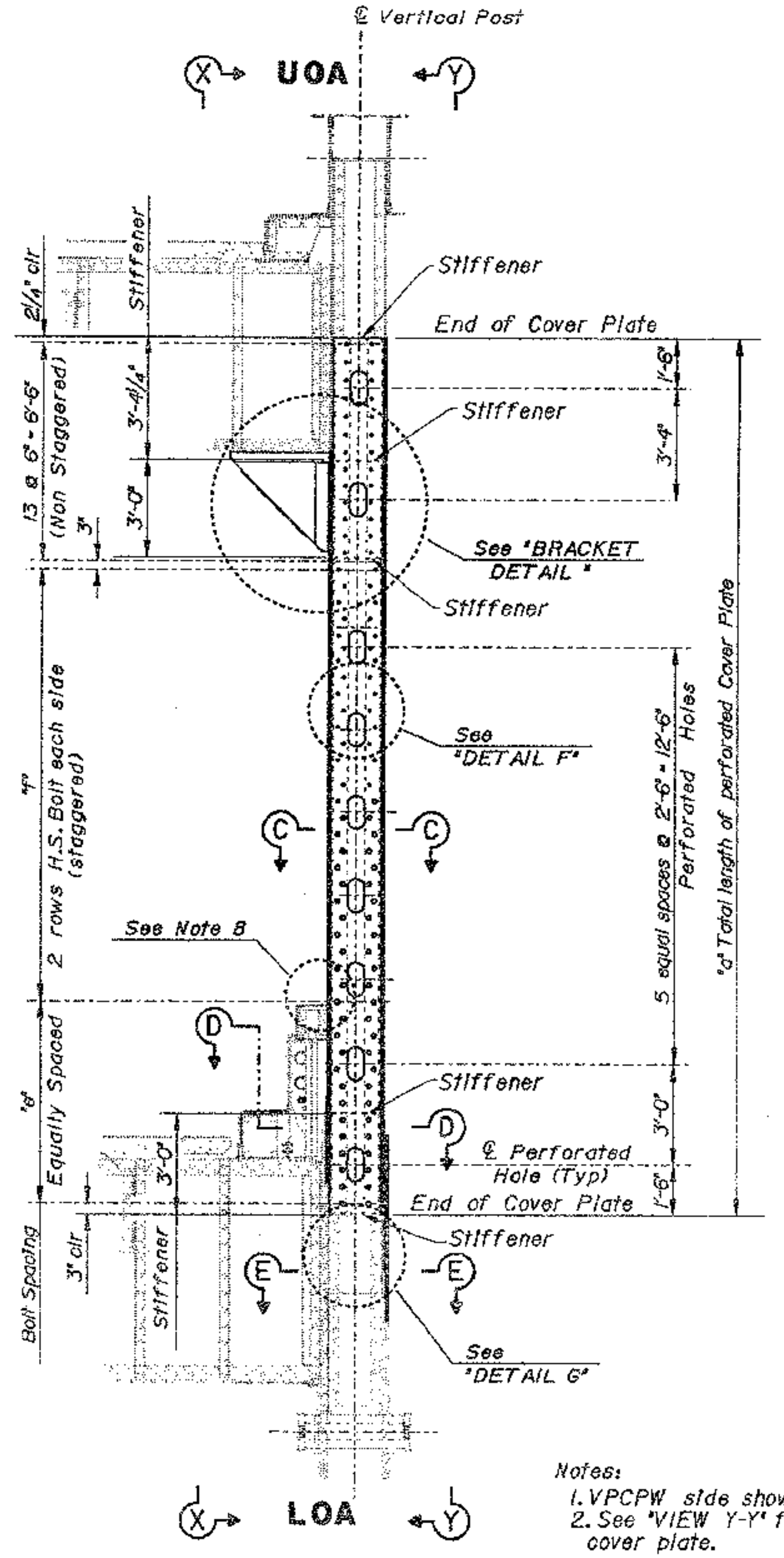
USERNAME => tronndo
bep\r23d+3_09083835
DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:29

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	92	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER DER-FU DONALD LEE No. 50978 Exp. 9-30-01 CIVIL STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE



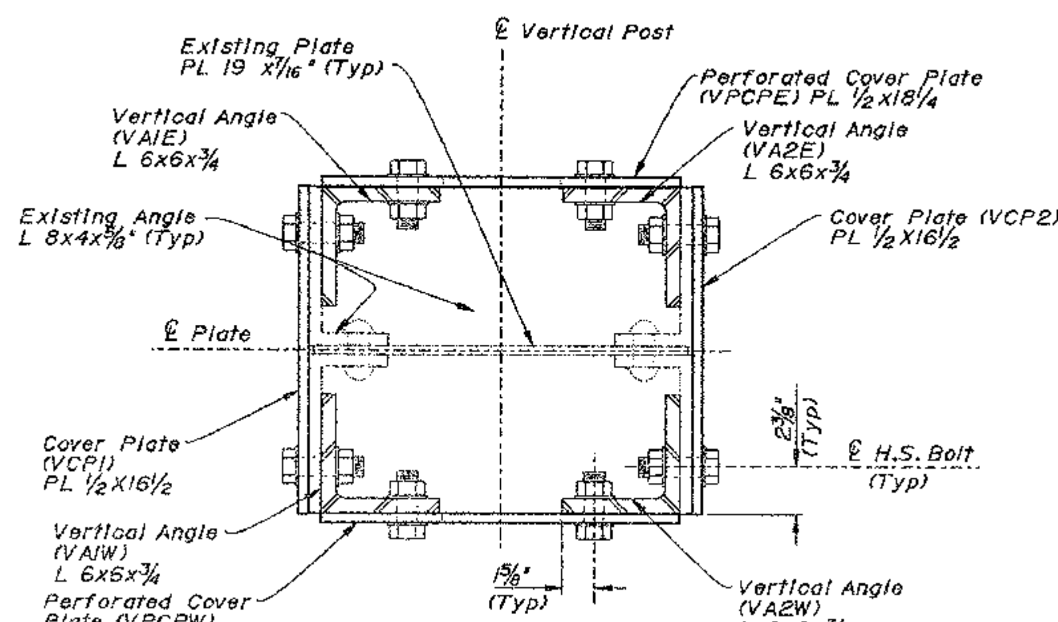
(VPCPW)

PART TYPICAL

⅜" - 1'-0"

Notes:
1. VPCPW side shown VPCPE side similar.
2. See "VIEW Y-Y" for beginning limit of cover plate.

PART TYPICAL AT SOUTH VERTICAL TRUSS (VPCPW) (VPCPE)				
LOCATION	PERFORATED COVER PLATE LIMITS	H.S. BOLT LIMITS		DRAINAGE PIPE
	"a" (ft)	"e" (spaces)	"f"	(see Note 7)
YB1				
L0-U0A	25'-2¾"	12	24 @ 6"	East Side
YB2				
L8-U8A	25'-1¾"	8	29 @ 6"	-
L9-U9A	25'-7¾"	10	28 @ 6"	-
YB3				
L17-U17A	25'-3¼"	12	24 @ 6"	-
L18-U18A	25'-2½"	12	24 @ 6"	West Side
YB4				
L26-U26A	25'-3¼"	12	24 @ 6"	-
L27-U27A	25'-2½"	12	24 @ 6"	-
E1				
L35-U35A	25'-9¼"	12	25 @ 6"	-



SECTION C-C

2½" - 1'-0"

LEGEND

- Indicates existing structures.
- Indicates new structures.
- Indicates new 1"Ø high strength bolts in 1¼"Ø hole.
- Indicates existing 1"Ø rivets to be removed and replaced with new 1" Ø high strength bolts in existing 1 1/16"Ø hole.
- Indicates approx. location of existing rivets.

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side

Notes:
1. VPCPW side shown VPCPE side similar.
2. For "VIEW X-X" see "VERTICAL MEMBER DETAIL NO. 5 (SOUTH)" sheet.
3. For "VIEW Y-Y" see "VERTICAL MEMBER DETAIL NO. 6 (SOUTH)" sheet.
4. For "SECTION D-D", "SECTION E-E", and "Detail F" see "MISCELLANEOUS DETAILS NO. 1" sheet. For "DETAIL G" see "MISCELLANEOUS DETAILS NO. 3" sheet.
5. For "BRACKET DETAIL" see "MISCELLANEOUS DETAILS NO. 2" sheet.
6. For "STIFFENER DETAIL" see "MISCELLANEOUS DETAILS NO. 1" sheet.
7. The 6" diameter drainage pipe shall be removed and temporarily supported. After Cover Plate is installed, modified support and pipe shall be mounted to the Cover Plate as approved by the Engineer. For other Temporary Utility Relocation see Road Plans.
8. For barrier temporary removal see "BARRIER DETAILS NO. 1" sheet. Platform brackets shall be temporarily removed as required and modified to accomodate new Cover Plate as per Engineer's approval.
9. Staggered bolt pattern on VPCPW and VPCPE shall be installed so as not to interfere with the adjacent VCP1 and VCP2 staggered pattern.
10. For Installation Sequence see "VERTICAL MEMBER RETROFIT MISCELLANEOUS NOTES" sheet.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY		CHECKED	
DESIGN	Gerrard Hight	5-97	E.A. Morris	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

CU 04
EA 043001

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
VERTICAL MEMBER DETAIL NO. 4 (SOUTH)

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY): 5-30-97, 5-30-97, 5-27-97, 6-?-97, 6-5-97, 6-20-97, 6-26-97, 6-27-97, 9-22-97, 10-2-97

SHEET 24 OF 36

DS OSD 2939 (CADD 3/95)

USERNAME => frannda
bep:r24a+4..09083843

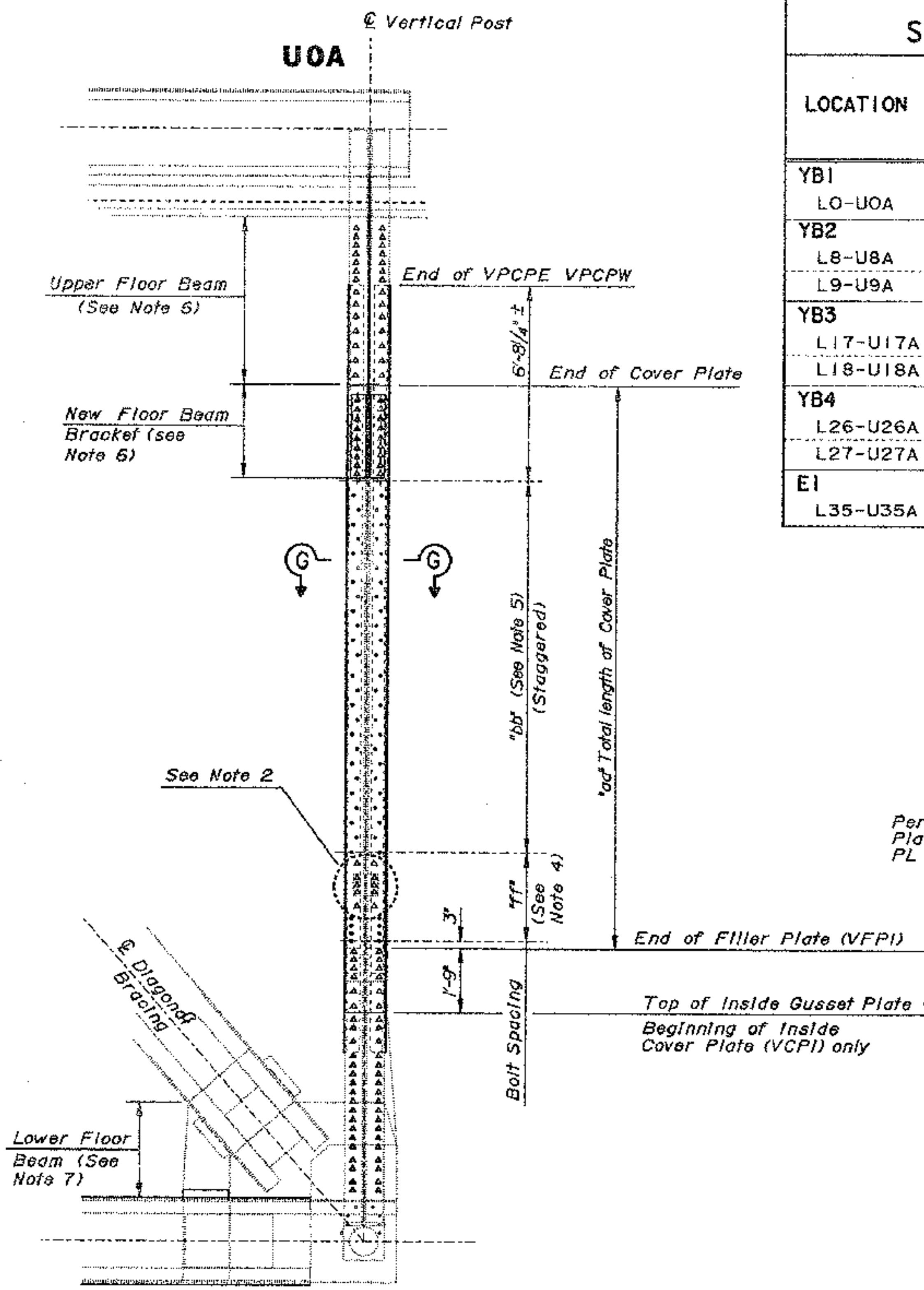
DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 08:30

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	93	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
Exp. 9-30-01
CIVIL
STATE OF CALIFORNIA



(VCPI)

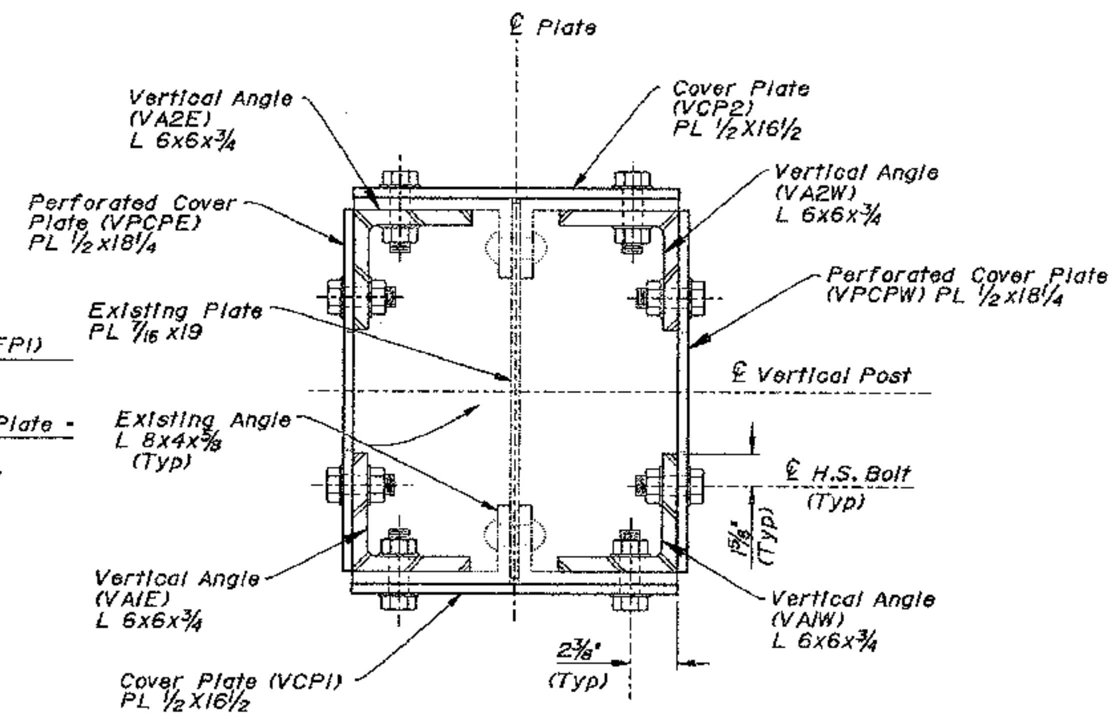
VIEW X-X

⅜" = 1'-0"

PART TYPICAL AT SOUTH VERTICAL TRUSS (VPCI)

LOCATION	COVER PLATE LIMITS "aa" (ft)	H.S. BOLT LIMITS "bb" (spaces)	BOLT SPACINGS "ff" (spaces)	FILLER PLATE LIMITS* FILLER PLATE (VFPI)
YB1				
L0-U0A	21'-2½"	24 @ 6"	9	5⁄16 x 16½
YB2				
L8-U8A	21'-1½"	29 @ 6"	4	5⁄16 x 16½
L9-U9A	21'-1½"	28 @ 6"	6	¼ x 16½
YB3				
L17-U17A	20'-9¼"	24 @ 6"	9	¼ x 16½
L18-U18A	20'-8¼"	24 @ 6"	9	¼ x 16½
YB4				
L26-U26A	20'-9"	24 @ 6"	9	¼ x 16½
L27-U27A	20'-8½"	24 @ 6"	9	¼ x 16½
E1				
L35-U35A	21'-2¼"	25 @ 6"	9	¼ x 16½

*See Note 4



SECTION G-G

2½" = 1'-0"

LEGEND

- ········ Indicates existing structures.
- ——— Indicates new structures.
- ● Indicates new 1"Ø high strength bolts in 1¼"Ø hole.
- △ Indicates existing 1"Ø rivets to be removed and replaced with new 1" Ø high strength bolts in existing 1 1⁄16"Ø hole.
- ○ Indicates approx. location of existing rivets.

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side

Notes:

1. For Temporary Utility Relocation see Road Plans.
2. For barrier temporary removal see "BARRIER DETAILS NO. 1" sheet. Platform brackets shall be temporarily removed as required and modified to accomodate new Cover Plate as per Engineer's approval.
3. For Installation Sequence see "VERTICAL MEMBER RETROFIT MISCELLANEOUS NOTES" sheet.
4. Existing Filler Plate shall be replaced with a new Filler Plate, into same location to accomodate new Cover Plate
5. Existing abandoned utility holes shall be used when possible in place of new 1¼" dameter holes.
6. Upper Floor Beam has a total of 30 existing rivets. The existing Floor Beam Bracket has 18 existing rivets.
7. Lower Floor Beam has a total of 36 existing rivets.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY		CHECKED	
DESIGN	Gerrard Hight	5-97	E.A. Morris	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
VERTICAL MEMBER DETAIL NO. 5 (SOUTH)

05 0SD 209 (CADD 3/95)
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
CU 04
EA 043001
DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) 5-30-97 10-2-97 6-3-97 6-4-97 6-10-97 6-6-97 6-23-97 6-27-97 9-22-97
SHEET 25 OF 36
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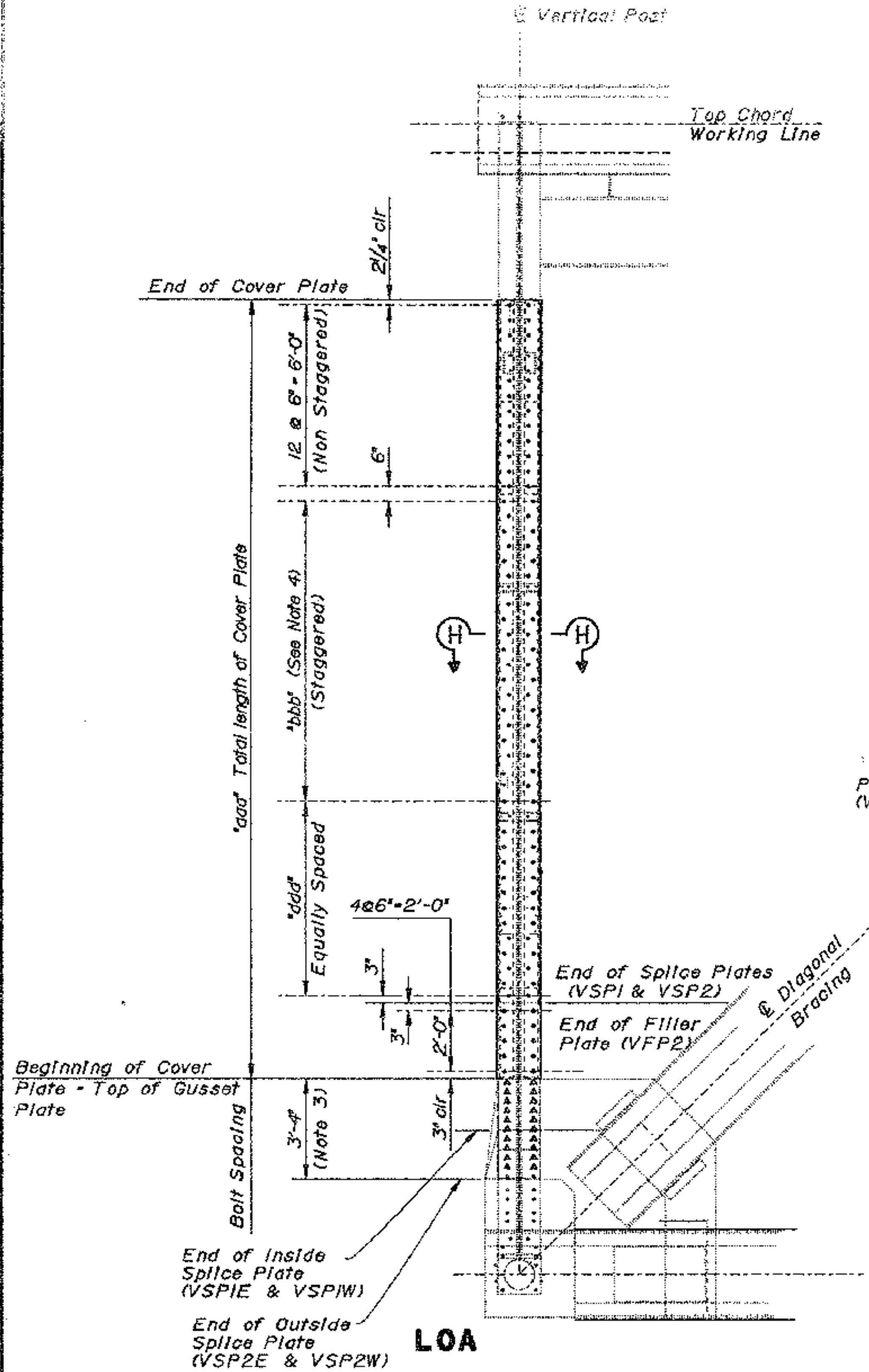
bepfr25df5_09083850
DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:30



(VCP2)

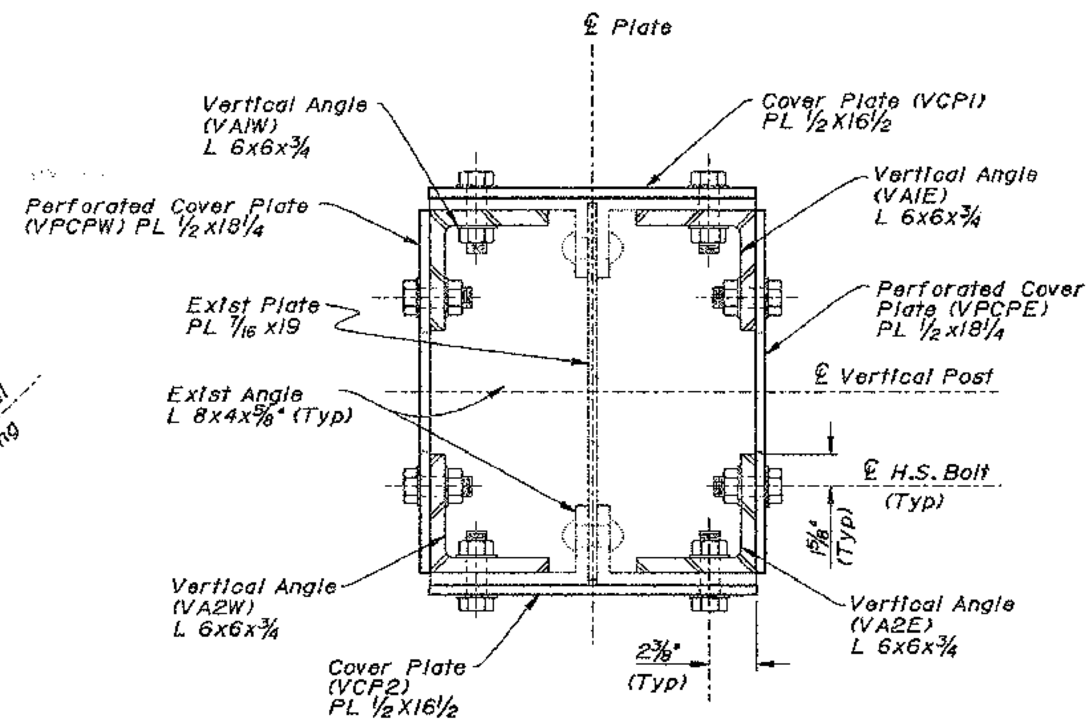
VIEW Y-Y

3/8" = 1'-0"

PART TYPICAL AT SOUTH VERTICAL TRUSS (VCP2)

LOCATION	COVER PLATE	H.S. BOLT LIMITS		SPLICE PLATE LIMITS		
	"aaa" (ft)	"bbb" (spaces)	"ddd" (spaces)	OUTSIDE PLATE* (VSP2)	MIDDLE PLATE* (VSP1)	FILLER PLATE (VFP2)
YB1						
L0-U0A	25'-2¾"	24 @ 6"	8	¾x8¼x6'-8⅝"	⅝x8¼x4'-8½"	¼x16½x2'-6"
YB2						
L8-U8A	25'-1¾"	29 @ 6"	3	¾x8¼x6'-8¾"	⅝x8¼x4'-8½"	¼x16½x2'-6"
L9-U9A	25'-7¾"	28 @ 6"	5	¾x8¼x6'-3 "	¾x8¼x4'-6½"	¼x16½x2'-6"
YB3						
L17-U17A	25'-3¼"	24 @ 6"	8	¾x8¼x6'-3¼"	¾x8¼x4'-6¾"	¼x16½x2'-6"
L18-U18A	25'-2½"	24 @ 6"	8	¾x8¼x6'-3¼"	¾x8¼x4'-6¾"	¼x16½x2'-6"
YB4						
L26-U26A	25'-3¼"	24 @ 6"	8	¾x8¼x6'-3¼"	¾x8¼x4'-6¾"	¼x16½x2'-6"
L27-U27A	25'-2½"	24 @ 6"	8	¾x8¼x6'-3¼"	¾x8¼x4'-6¾"	¼x16½x2'-6"
E1						
L35-U35A	25'-9¼"	25 @ 6"	8	¾x8¼x6'-2¼"	¾x8¼x4'-5¾"	¼x16½x2'-6"

*2 plates per location.



SECTION H-H

2½" = 1'-0"

LEGEND

- ········ Indicates existing structures.
- ——— Indicates new structures.
- ● Indicates new 1"ø high strength bolts in 1¼"ø hole.
- △ Indicates existing 1"ø rivets to be removed and replaced with new 1"ø high strength bolts in existing 1 1/16"ø hole.
- ○ Indicates approx. location of existing rivets.

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side

Notes:

1. For Temporary Utility Relocation see Road Plans.
2. For barrier temporary removal see "BARRIER DETAILS NO. 1" sheet. Platform bracket shall be temporarily removed as required and modified to accomodate new Cover Plate as per Engineer's approval.
3. Total of 22 existing rivets to be replaced by H.S. bolts except at L0-U0A and L8-U8A, which have 24 rivets
4. Existing abandoned utility holes shall be used when possible in place of new 1¼" diameter holes.
5. For Installation Sequence see "VERTICAL MEMBER RETROFIT MISCELLANEOUS NOTES" sheet.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY		CHECKED	
DESIGN	Gerrard Hight	5-97	E.A. Morris	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

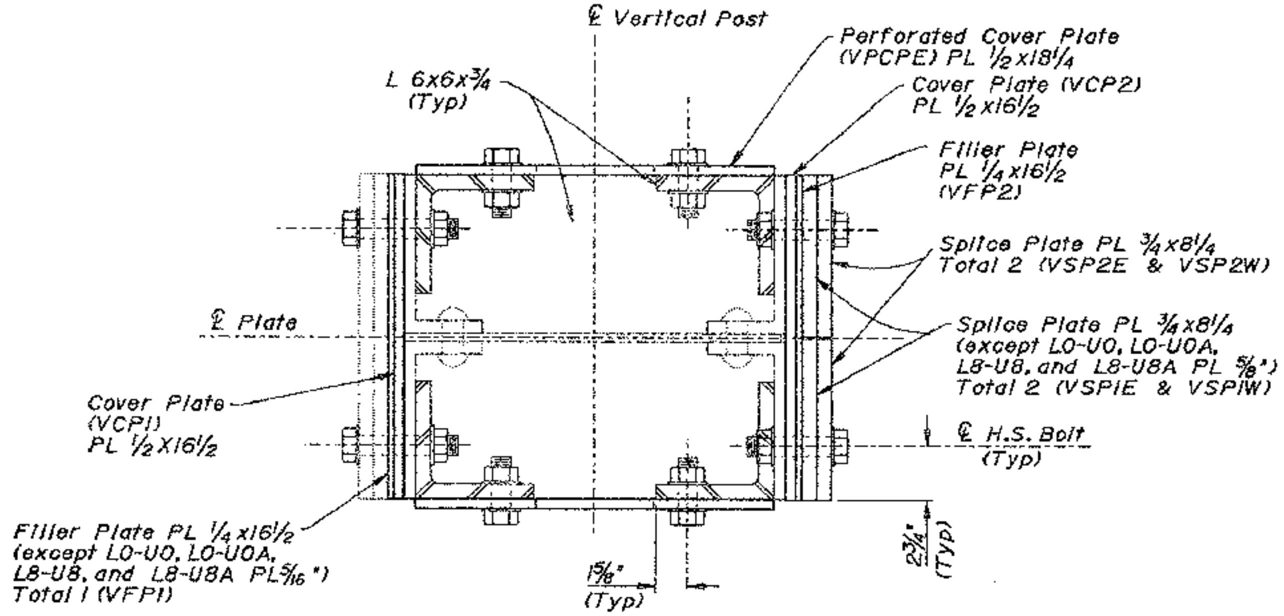
INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
VERTICAL MEMBER DETAIL NO. 6 (SOUTH)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	95	205

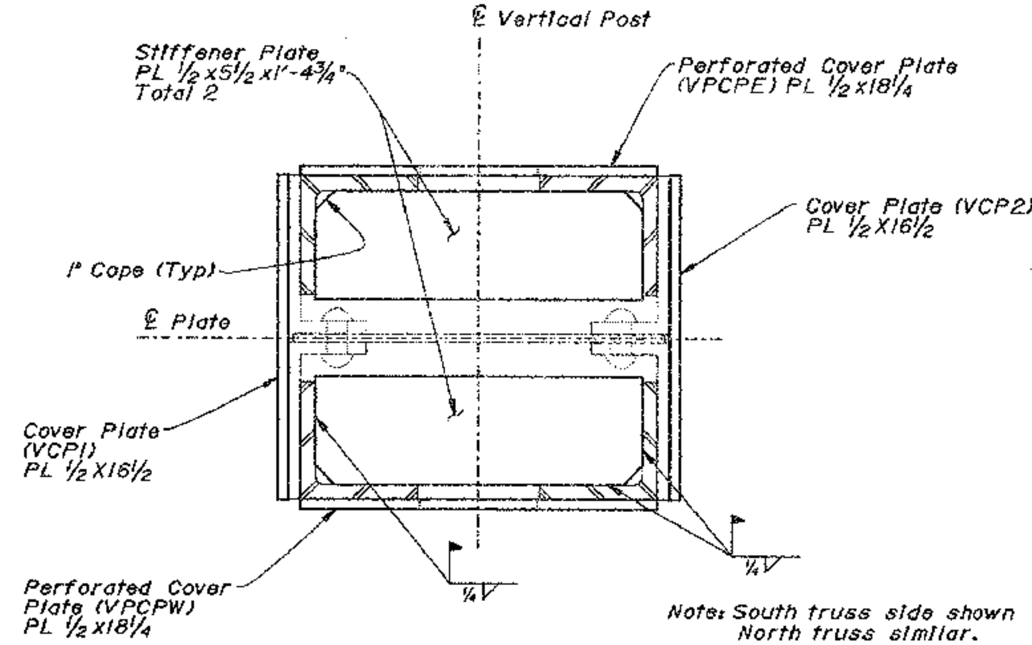
REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

PROFESSIONAL ENGINEER — REGISTERED — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA



SECTION D-D
2½" = 1'-0"



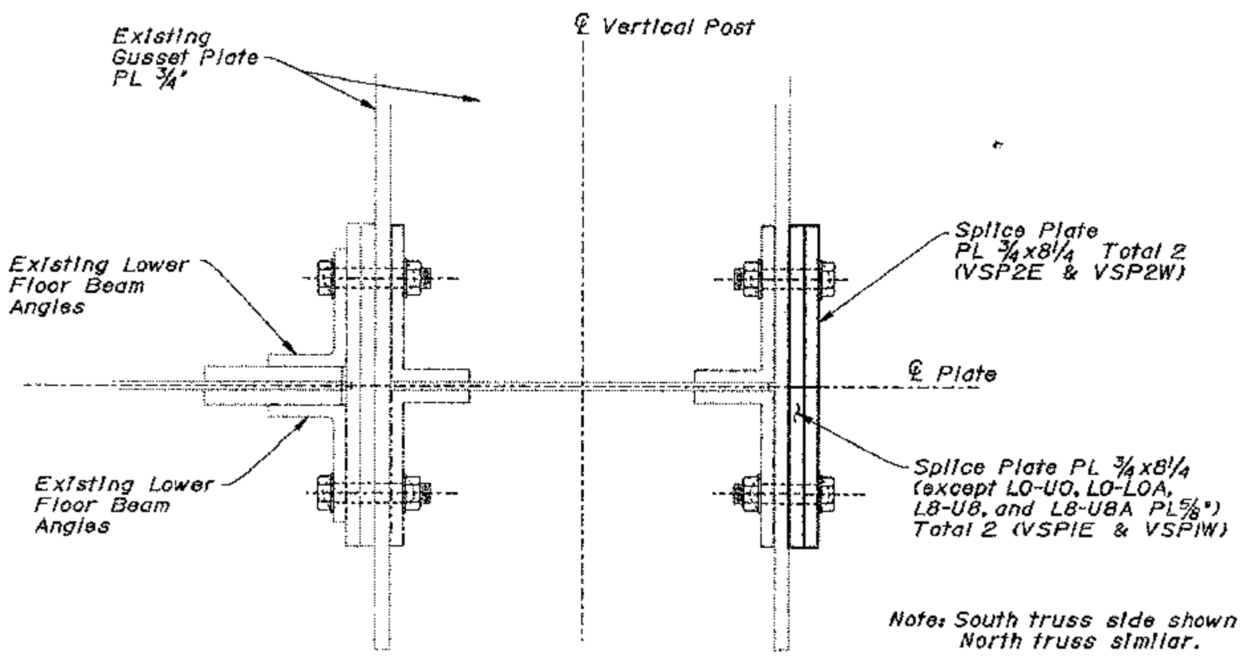
STIFFENER DETAIL
2½" = 1'-0"

LEGEND

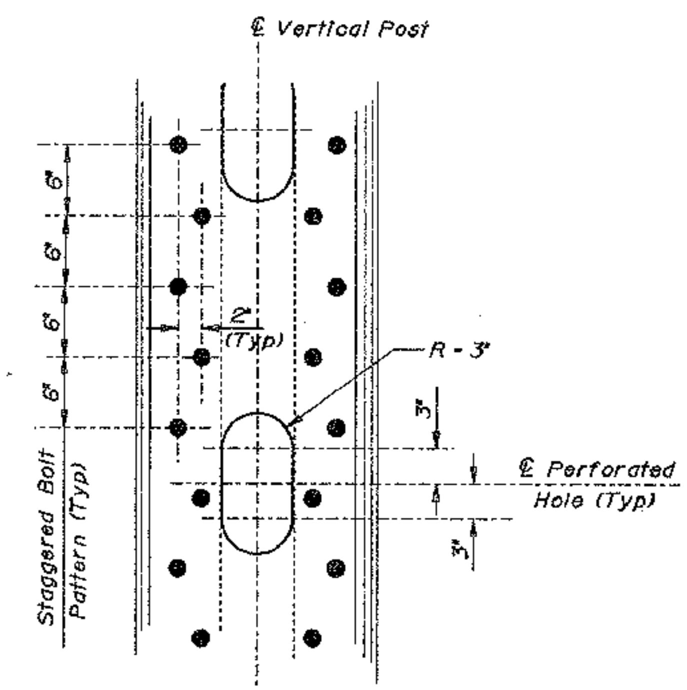
- Indicates existing structures.
- Indicates new structures.
- ● Indicates new 1"ϕ high strength bolts in 1¼"ϕ hole.
- ▲ Indicates existing rivets to be removed and replaced with new 1" ϕ high strength bolts in existing 1 1/16"ϕ hole.
- ○ Indicates approx. location of existing rivets.

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side



SECTION E-E
2½" = 1'-0"



DETAIL F
1½" = 1'-0"

Notes:

1. For locations of "DETAIL F", SECTION D-D", "SECTION E-E", and "STIFFNER DETAIL" see "VERTICAL MEMBER DETAIL NO. 1 (NORTH)" and "VERTICAL MEMBER DETAIL NO. 4 (SOUTH)" sheets.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY		CHECKED	
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
MISCELLANEOUS DETAILS NO. 1

DS OSD 2839 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

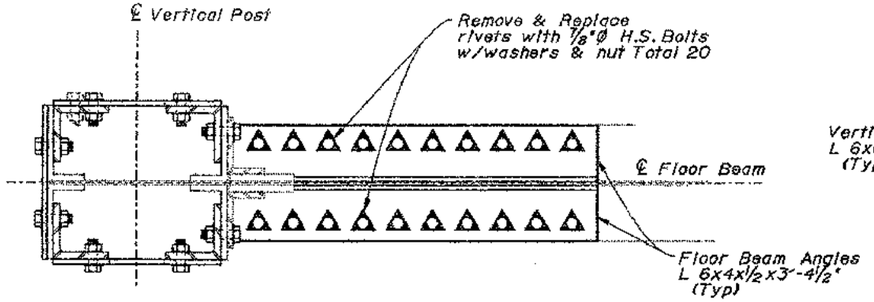
CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES (PRELIMINARY STAGE ONLY): 5-9-97, 6-2-97, 6-27-97, 10-2-97

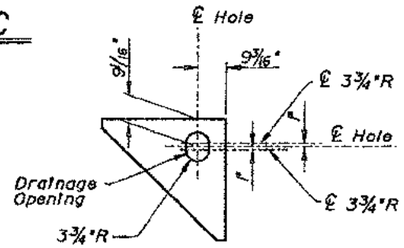
SHEET 27 OF 36

USERNAME => trannda
bknsc27ms1_09083856

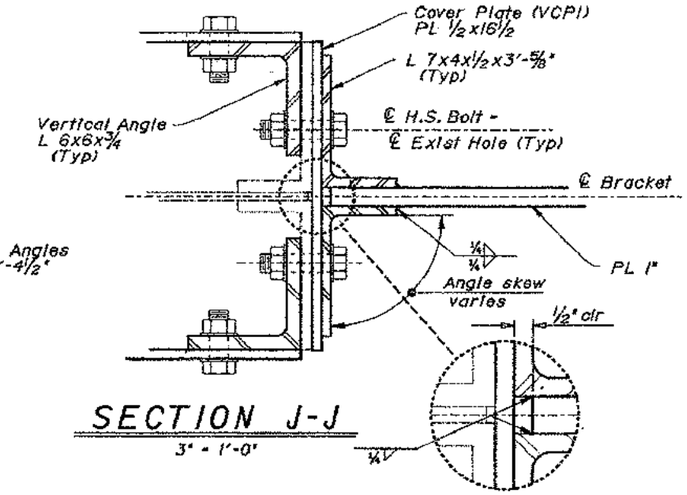
DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 09:32



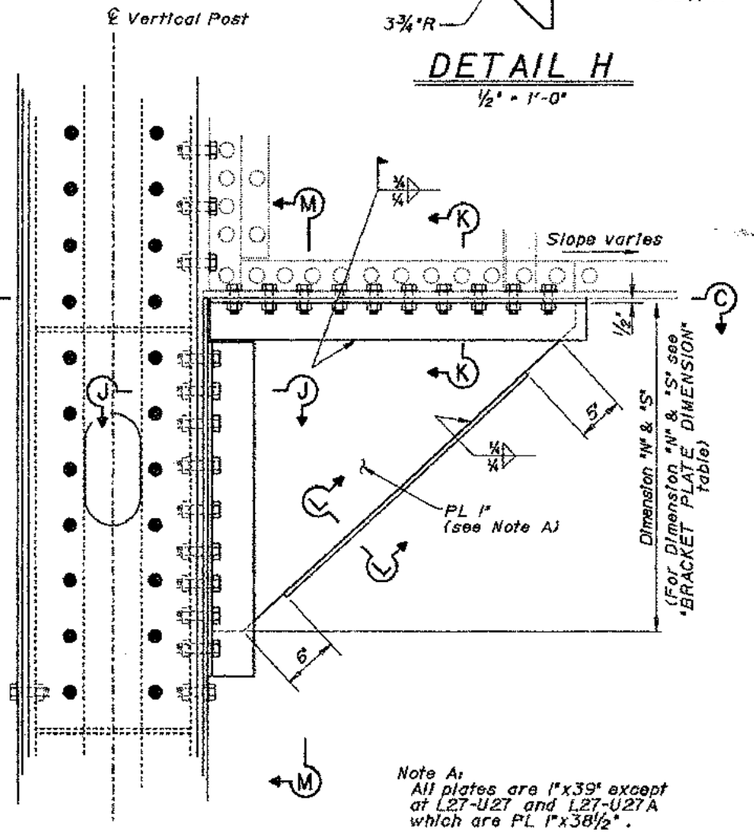
VIEW C-C
1½" = 1'-0"



DETAIL H
½" = 1'-0"

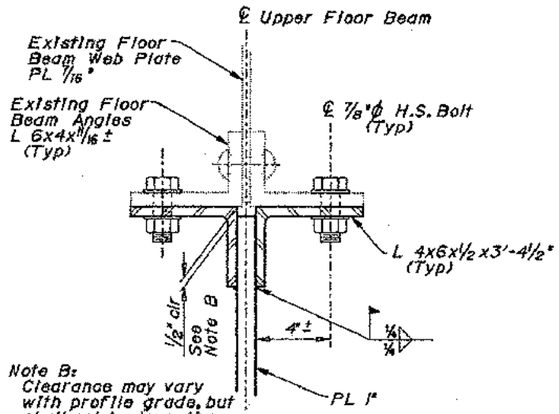


SECTION J-J
3" = 1'-0"



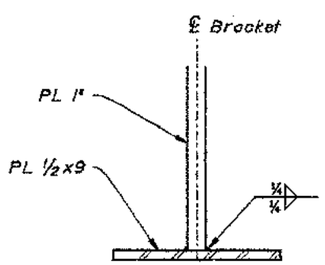
Note A:
All plates are 1"x39" except at L27-U27 and L27-U27A which are PL 1"x38½".

BRACKET DETAIL
1½" = 1'-0"

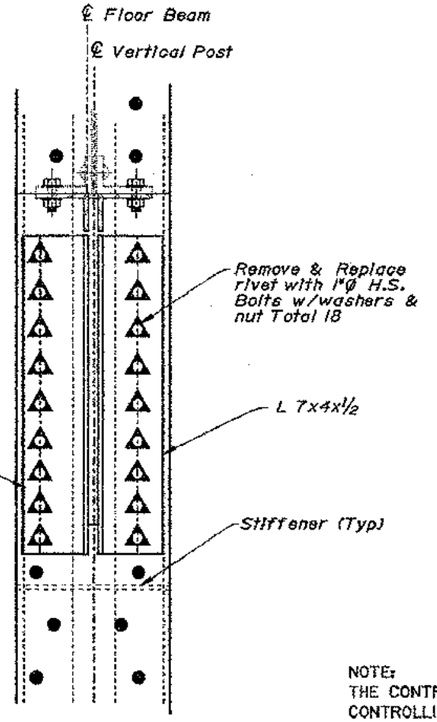


Note B:
Clearance may vary with profile grade, but shall not be less than ½".

SECTION K-K
3" = 1'-0"



SECTION L-L
3" = 1'-0"



VIEW M-M
1½" = 1'-0"

LEGEND

- Indicates existing structures.
- Indicates new structures.
- ● Indicates new 1"ø high strength bolts in 1¼"ø hole.
- △ Indicates existing rivets to be removed and replaced with new high strength bolts in existing holes.
- ○ Indicates approx. location of existing rivets.

ANNOTATION

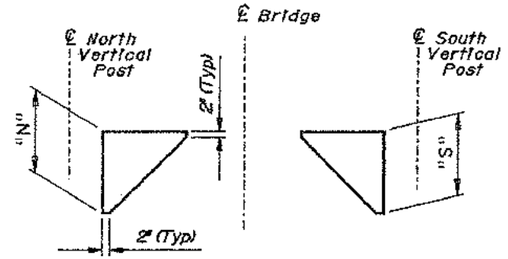
VCPI Vertical Cover Plate Deck side

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,Ala	80	7.8/8.9, 0.0/1.1	96	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE



Note:
For Dimensions "N" and "S" see "BRACKET PLATE DIMENSION" table.

BRACKET PLATE DIMENSION

LOCATION	NORTH TRUSS ("N")	SOUTH TRUSS ("S")
YB1		
L0-U0	3'-3½"	3'-3½"
YB2		
L8-U8	3'-3½"	3'-3½"
L9-U9	3'-3½"	3'-3½"
YB3		
L17-U17	3'-4"	3'-4"
L18-U18	3'-5"	* 3'-5"
YB4		
L26-U26	3'-3¾"	3'-5"
L27-U27	3'-4¾"	3'-5"
E1		
L35-U35	3'-3½"	3'-3¾"

*This location requires accomodating existing drainage pipe see "DETAIL H".

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
MISCELLANEOUS DETAILS NO. 2

	BY	DATE	CHECKED	DATE
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

SHEET 28 OF 36

DATE PLOTTED => 9-DEC-1997
TIME PLOTTED => 08:15

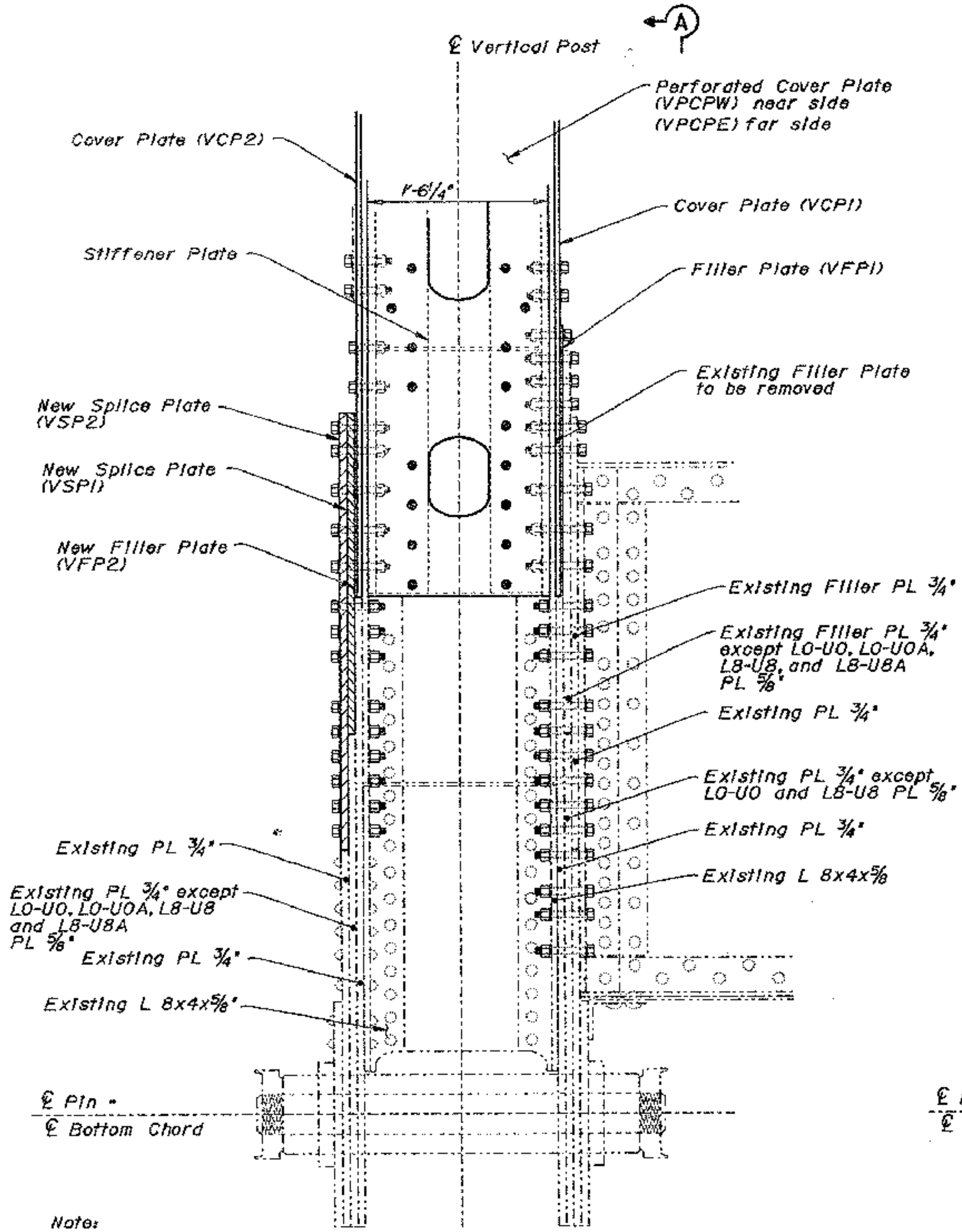
USERNAME => trbing
bkwsc28ms2_09030342

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF.Ala	80	7.8/8.9, 0.0/1.1	97	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

PROFESSIONAL ENGINEER REGISTERED DER-FU DONALD LEE No. 50978 Exp. 9-30-01 CIVIL STATE OF CALIFORNIA

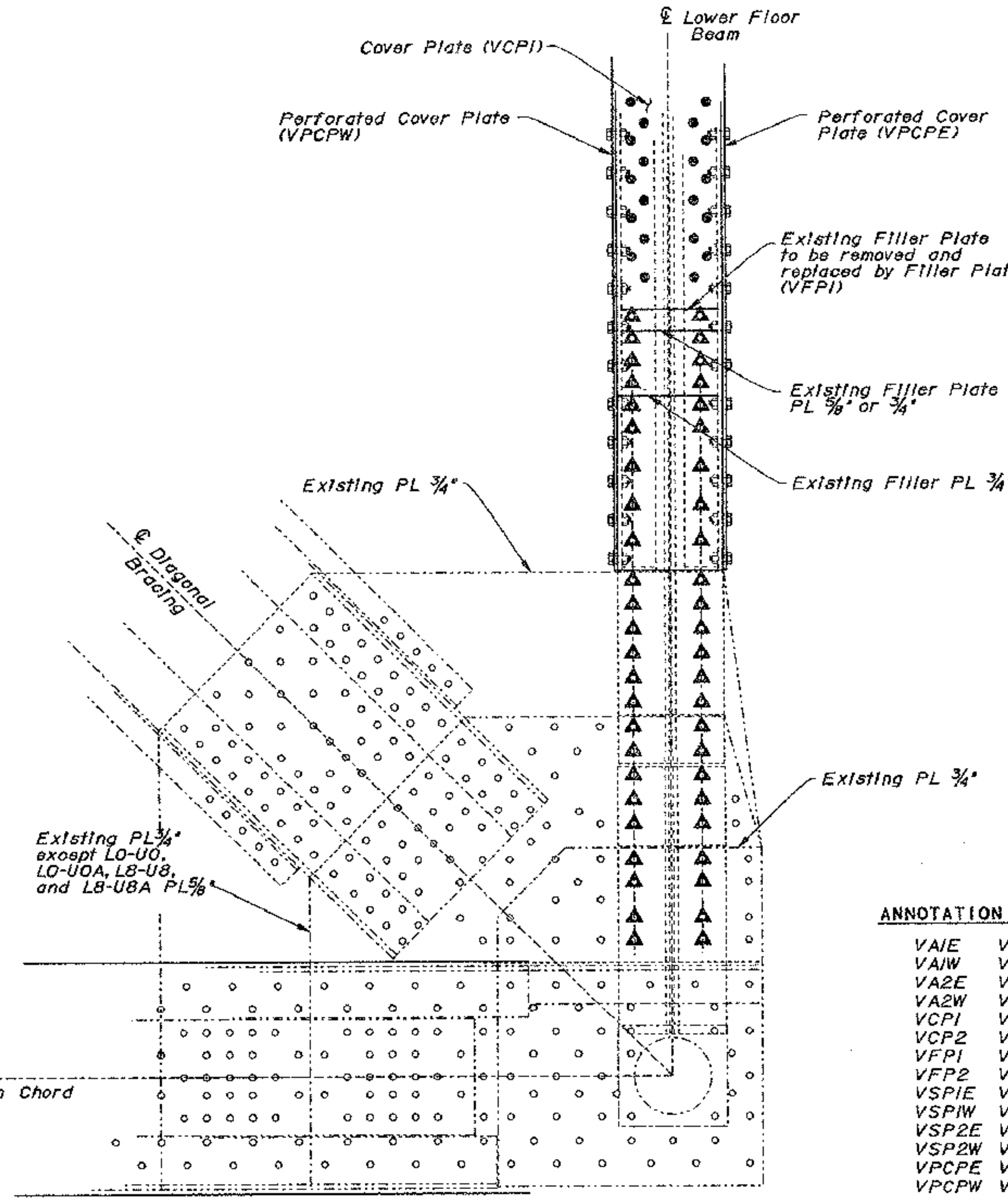


Note:

North truss shown, South truss similar

DETAIL G

Vertical : 1" = 1'-0"
Horizontal: 1½" = 1'-0"



VIEW A-A

Vertical : 1" = 1'-0"
Horizontal: 1" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND

- - - - Indicates existing structures.
——— Indicates new structures.
● Indicates new 1"Ø high strength bolts in 1¼"Ø hole.
▲ Indicates existing rivets to be removed and replaced with new 1" Ø high strength bolts in existing 1 1/16"Ø hole.
○ Indicates approx. location of existing rivets

ANNOTATION

VA1E	Vertical Angle, Deck side and East side
VA1W	Vertical Angle, Deck side and West side
VA2E	Vertical Angle, Outside and East side
VA2W	Vertical Angle, Outside and West side
VCP1	Vertical Cover Plate, Deck side
VCP2	Vertical Cover Plate, Outside
VFP1	Vertical Filler Plate, Deck side
VFP2	Vertical Filler Plate, Outside
VSP1E	Vertical Splice Plate, Inside of VSP2E
VSP1W	Vertical Splice Plate, Inside of VSP2W
VSP2E	Vertical Splice Plate, Outside, East half
VSP2W	Vertical Splice Plate, Outside, West half
VPCPE	Vertical Perforated Cover Plate East side
VPCPW	Vertical Perforated Cover Plate West side

	BY		CHECKED	
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
MISCELLANEOUS DETAILS NO. 3

DS OSD 2139 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

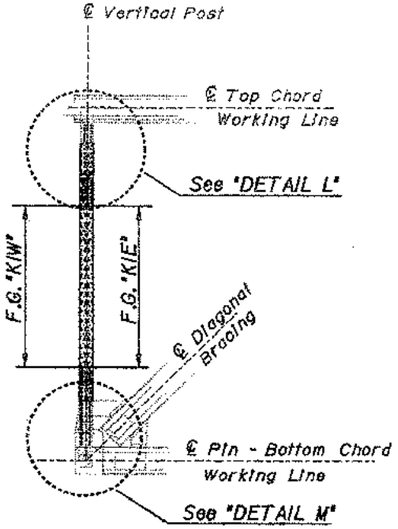
CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 5-8-97, 5-22-97, 5-29-97, 6-6-97, 6-11-97, 6-25-97, 9-22-97

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 08:17

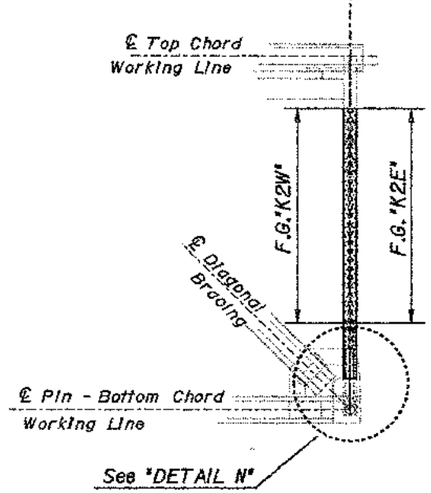
USERNAME => trbing
bkmsc29ms3_09080357



VIEW X-X

NO SCALE

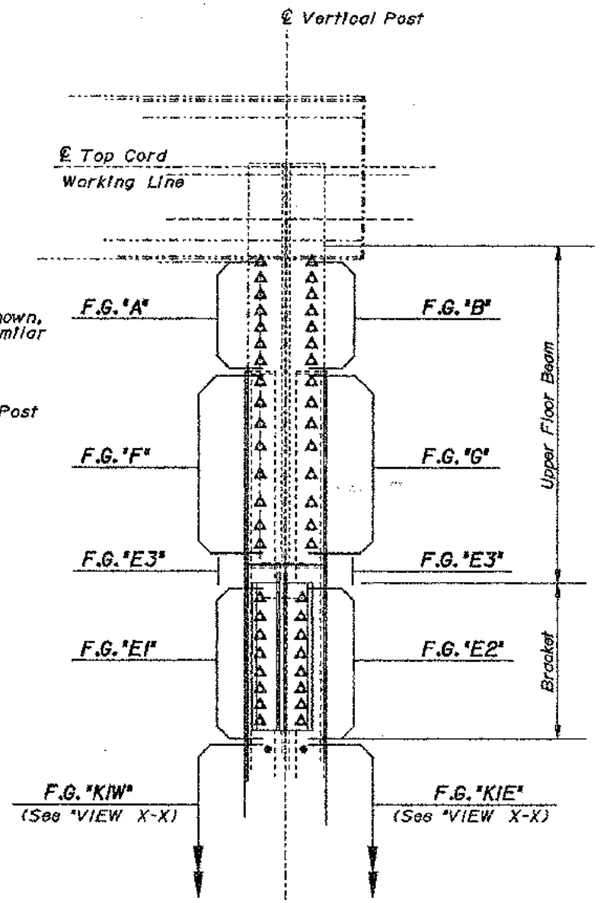
Note:
North truss Shown,
South truss similar



VIEW Y-Y

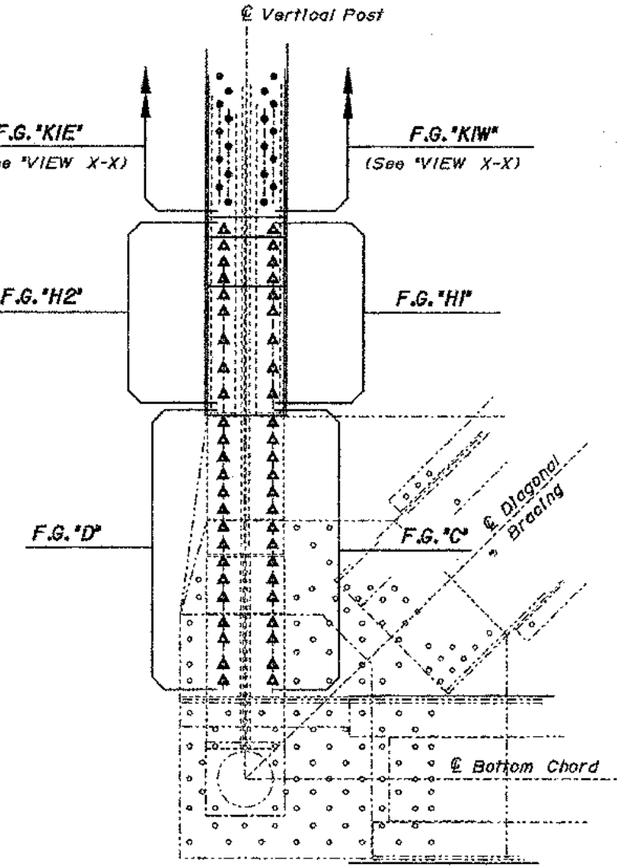
NO SCALE

Note:
North truss Shown,
South truss similar



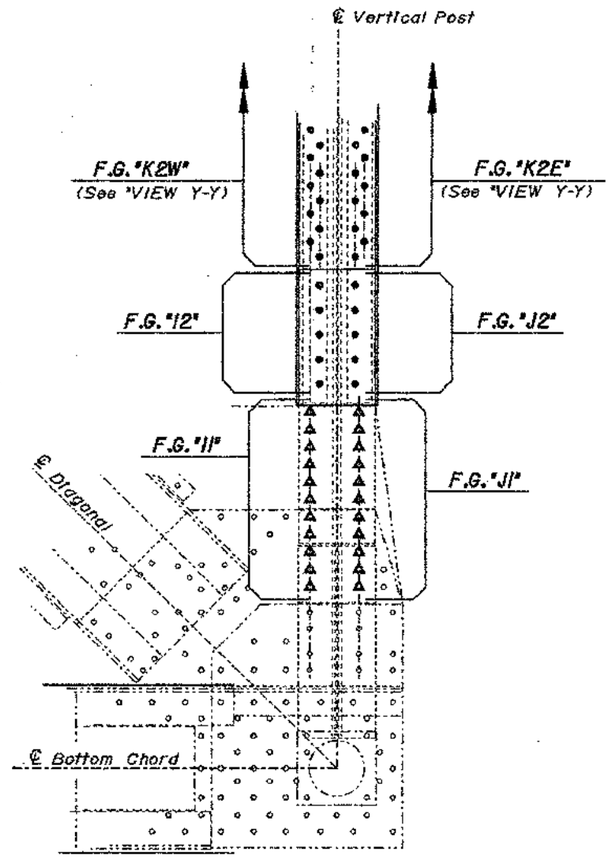
DETAIL L

3/4" = 1'-0"



DETAIL M

3/4" = 1'-0"



DETAIL N

3/4" = 1'-0"

Note:

1. For locations of "VIEW X-X" and "VIEW Y-Y", see "VERTICAL MEMBER DETAIL NO.1 (NORTH)" and "VERTICAL MEMBER DETAIL NO. 4 (SOUTH)" sheets.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND

- Indicates existing structures.
- Indicates new structures.
- Indicates new 1"ϕ high strength bolts in 1 1/4"ϕ hole.
- Indicates existing rivets to be removed and replaced with new 1" ϕ high strength bolts in existing 1 1/16 "ϕ hole.
- Indicates approx. location of existing rivets
- F.G. Indicates Fastner Group

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,Ala	80	7.8/8.9, 0.0/1.1	98	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER
DER-FU DONALD LEE
No. 50978
EXP. 9-30-01
CIVIL
STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	Don Lee	5-97
QUANTITIES	E.A. Morris	5-97	Don Lee	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

CU 04
EA 043001

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
MISCELLANEOUS DETAILS NO. 4

SHEET 30 OF 36

OS OSD 209 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)

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DATE PLOTTED => 9-DEC-1997
TIME PLOTTED => 09:33
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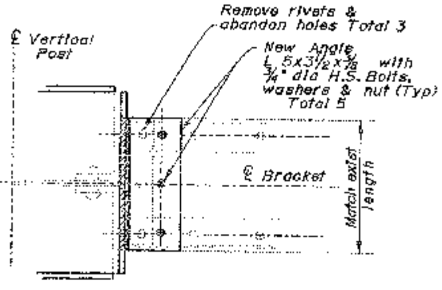
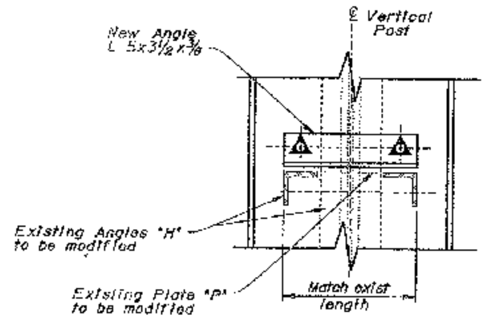


(RETROFITTED)

DETAIL B

2" = 1'-0"



VIEW C-C

2" = 1'-0"

MATERIALS FOR NORTH TRUSS BARRIER BRACKET			
LOCATION	EXISTING ANGLES "H"	EXISTING PLATE "P"	EXISTING ANGLE "V"
YB1			
L0-U0	None	⅜x14x1'-2¾"±	3½x3½x⅜x1'-2¾"±
YB2			
L8-U8	3x3x⅜x1'-11⅞"±	½x12x4'-11½"±	3½x3½x⅜x1'-0"±
L9-U9	3x3x⅜x4'-0"±	⅜x12x4'-11¾"±	3½x3½x⅜x1'-¾"±
YB3			
L17-U17	3x3x⅜x3'-5⅞"±	⅜x12x4'-5⅜"±	3½x3½x⅜x1'-0"±
L18-U18	3x3x⅜x6'-8¼"±	⅜x12-7'-7⅞"±	3½x3½x⅜x1'-1¼"±
YB4			
L26-U26	3x3x⅜x6'-8¾"±	⅜x12x7'-8⅜"±	3½x3½x⅜x1'-1¼"±
L27-U27	3x3x⅜x6'-9"±	⅜x12x7'-8¹¹⁄₁₆"±	3½x3½x⅜x1'-1¼"±
E1			
L35-U35	3x3x⅜x6'-9"±	⅜x12x5'-8½"±	3½x3½x⅜x1'-0"±

Note: All rivets to be replaced with same diameter H.S. Bolts.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,Ala	80	7.8/8.9, 0.0/1.1	99	205

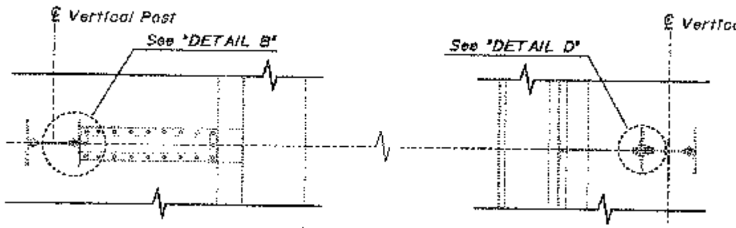
REGISTERED ENGINEER - CIVIL
October 21, 1997

PROFESSIONAL ENGINEER, No. 50978, Exp. 9-30-01, CIVIL, STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

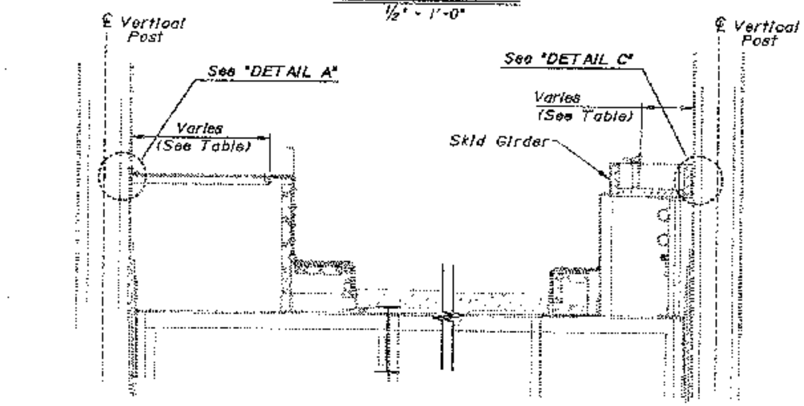
LEGEND

- - - - Indicates existing structures.
—— Indicates new structures.
● Indicates new ¾"ø high strength bolts in ¹⁵⁄₁₆"ø hole.
△ Indicates existing ¾"ø rivets to be removed and replaced with new ¾"ø high strength bolts in existing ¹⁵⁄₁₆"ø hole.
○ Indicates approx. location of existing rivets.
▨ Indicates steel removal limit.



PLAN VIEW

½" = 1'-0"

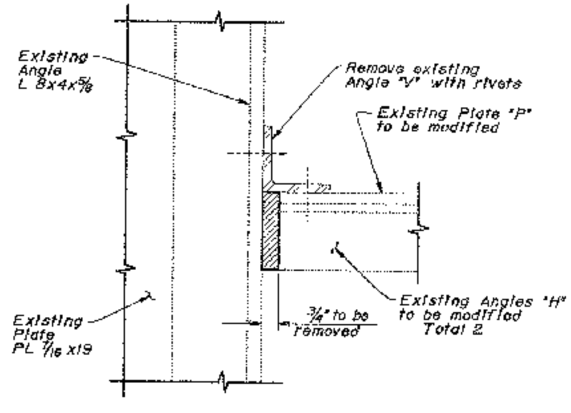


(NORTH DECK BARRIER) (SOUTH DECK BARRIER)

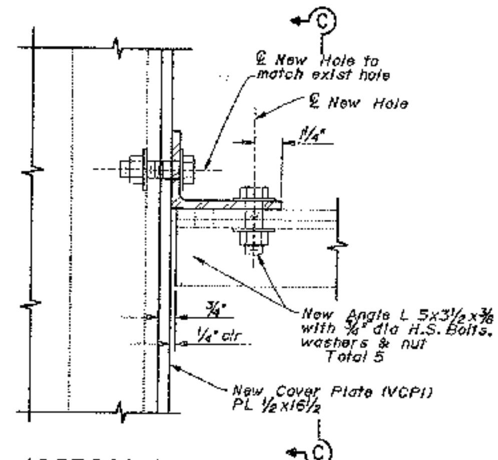
ELEVATION VIEW

½" = 1'-0"

Note: For "DETAILS C & D" see "BARRIER DETAILS NO.2 through 4" sheets.



(STEEL REMOVAL)



(RETROFITTED)

DETAIL A

4" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY E.A. Morris	5-97	CHECKED Don Lee	5-97
DETAILS	BY Ralph Nakaoka	5-97	CHECKED E.A. Morris	5-97
QUANTITIES	BY Don Lee	5-97	CHECKED E.A. Morris	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
BARRIER DETAILS NO. 1

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 04
EA 043491

DISREGARD PRINTS BEARING EARLIER REVISION DATES

SHEET 31 OF 36

USERNAME -> trbing
ptbar01bd1.09060429

DATE PLOTTED => 9-DEC-1997
TIME PLOTTED => 08:21

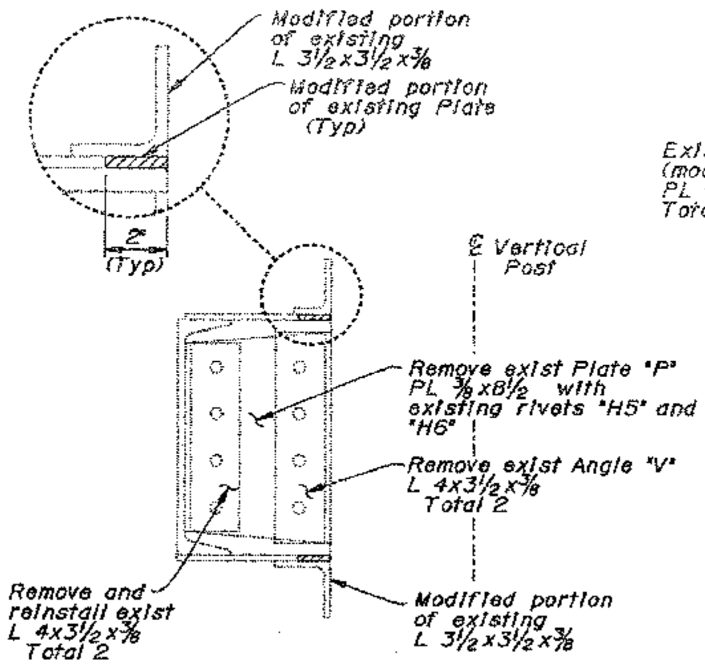
DS OSD 2359 (CADD 3/95)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,Ala	80	7.8/8.9, 0.0/1.1	100	205

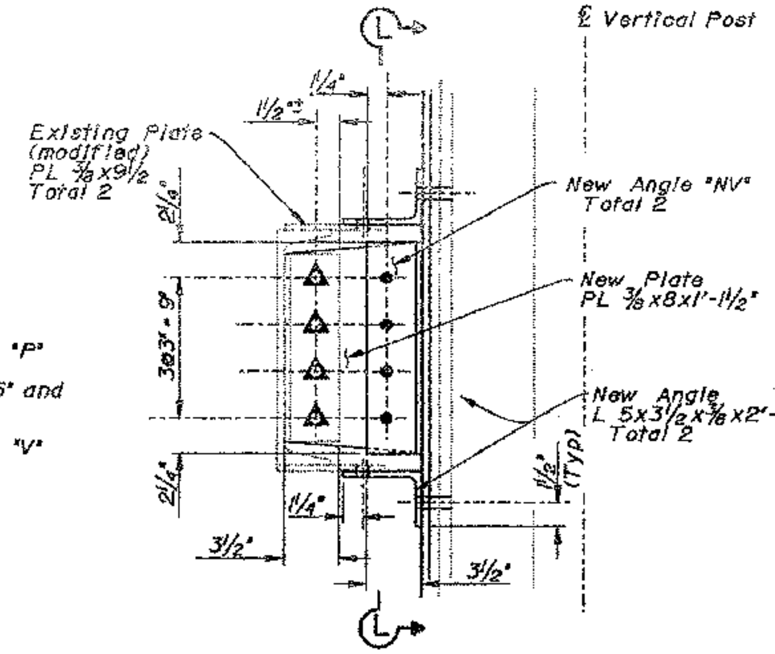
REGISTERED ENGINEER - CIVIL
October 21, 1997

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

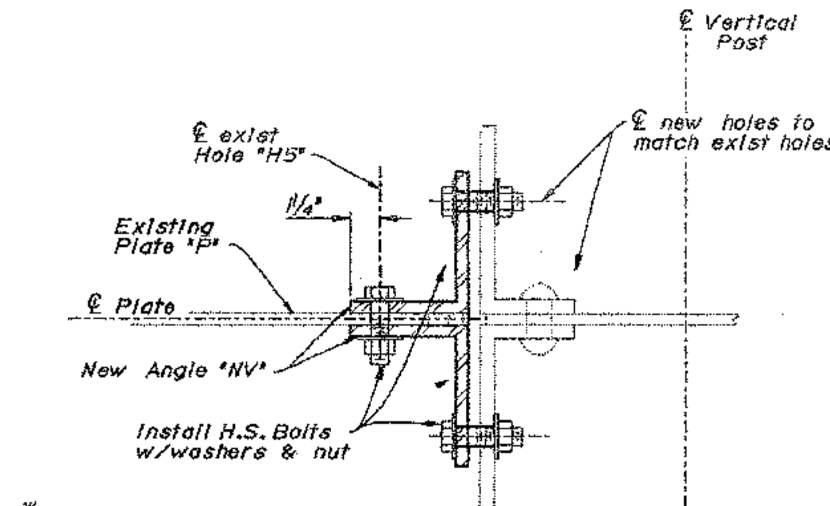


(STEEL REMOVAL)
2" = 1'-0"



(RETROFITTED)
2" = 1'-0"

DETAIL C (YB1)
2" = 1'-0"



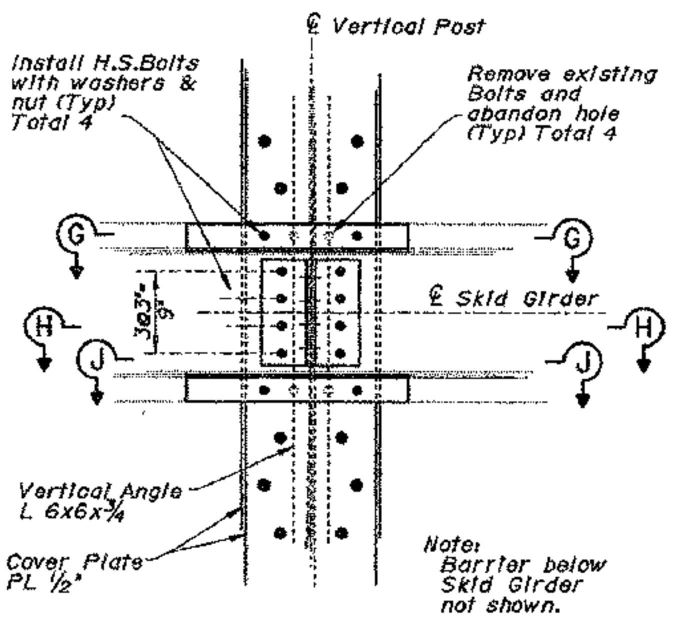
*Detail shown with new ½" Cover Plate. Vertical angles shown, horizontal angles similar.

(YB2 & E1)*

DETAIL D
3" = 1'-0"

LEGEND

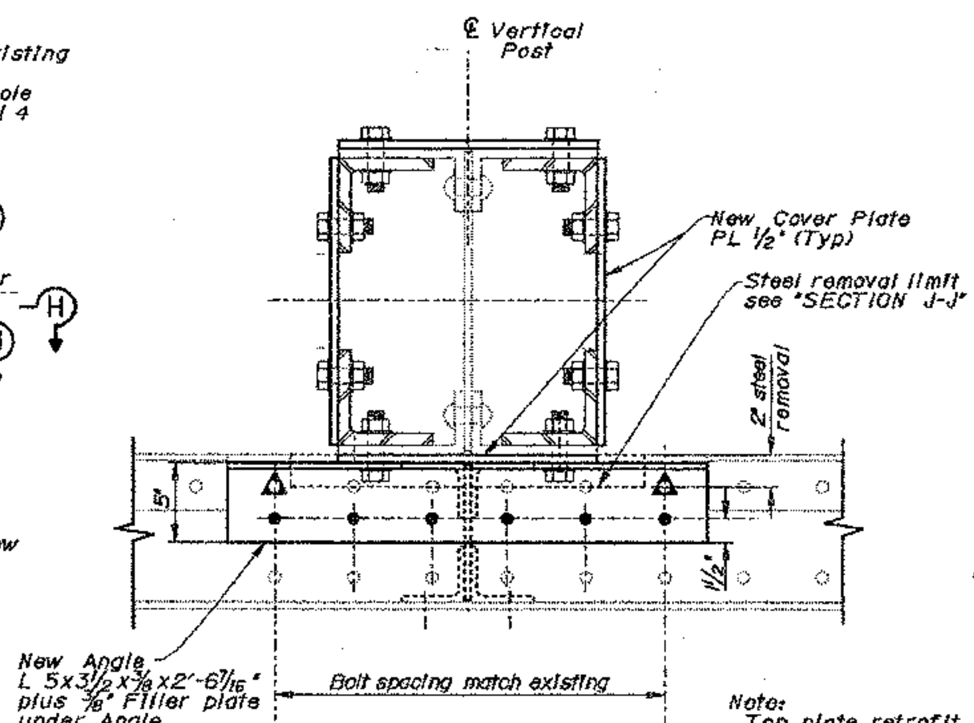
- Indicates existing structures.
- Indicates new structures.
- ● Indicates new ¾"ø high strength bolts in ¹³⁄₁₆"ø hole.
- ▲ Indicates existing ¾"ø rivets to be removed and replaced with new ¾"ø high strength bolts in existing ¹³⁄₁₆"ø hole.
- ○ Indicates approx. location of existing rivets.
- ▨ Indicates steel removal limit.



Note: Barrier below Skid Girder not shown.

(SKID GIRDER AT YB1)

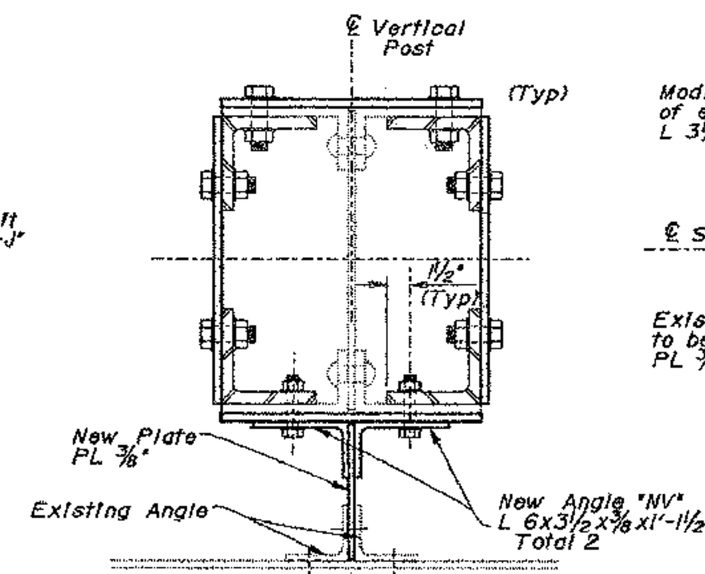
VIEW L-L
1" = 1'-0"



Note: Top plate retrofit shown, bottom plate and angle similar.

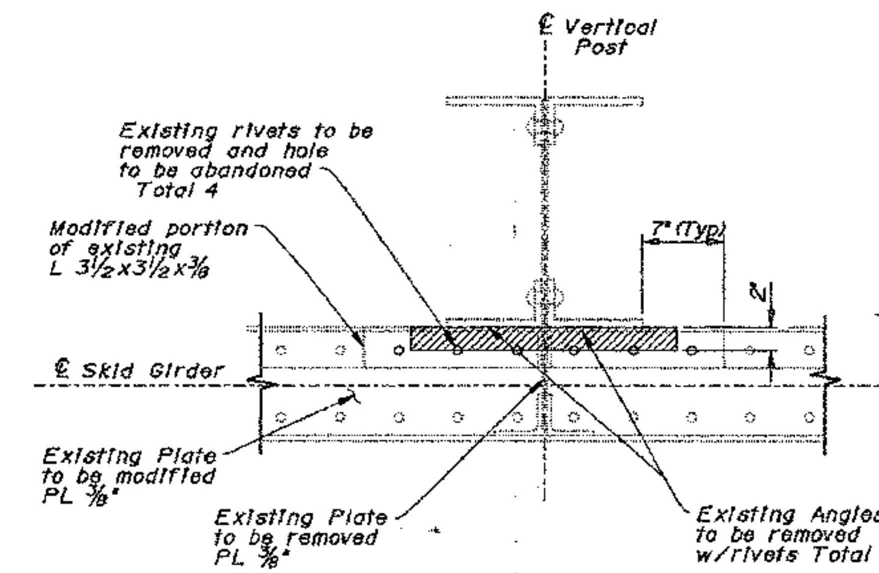
(RETROFITTED)

SECTION G-G
2" = 1'-0"



(RETROFITTED)

SECTION H-H
2" = 1'-0"



(STEEL REMOVAL)

SECTION J-J
1½" = 1'-0"

Note: Bottom plate modification shown, top plate and angle similar.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY		CHECKED	
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	E.A. Morris	5-97
QUANTITIES	Don Lee	5-97	E.A. Morris	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
BARRIER DETAILS NO. 2

CU 04
EA 0434J1

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

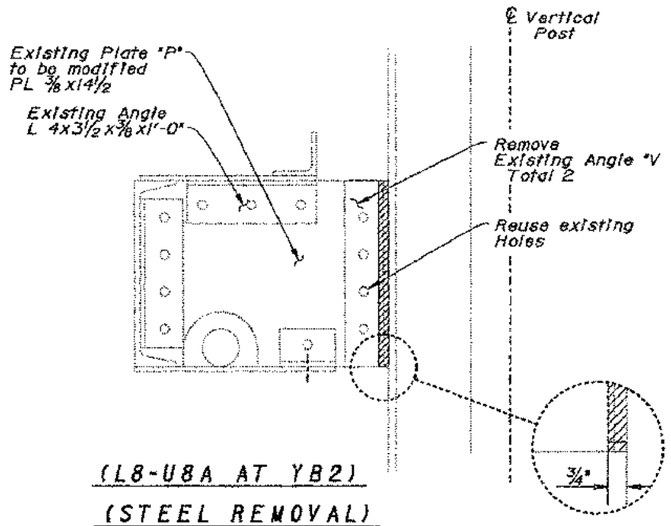
DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY): 6-4-96, 6-20-97, 6-25-97, 6-26-97, 6-30-97, 10-2-97

SHEET 32 OF 36

DS OSD 2139 (CADD 3/95)

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 08:24

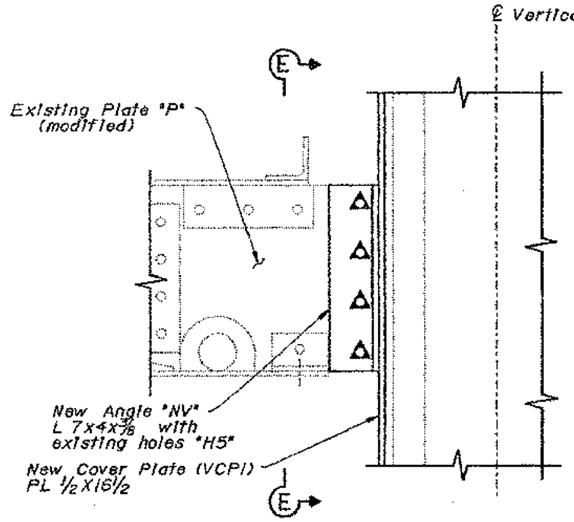
USERNAME => trbing
bmbar32bd2_09080447



(L8-U8A AT YB2)

(STEEL REMOVAL)

2" = 1'-0"



(L8-U8A AT YB2)

(RETROFITTED)

2" = 1'-0"

DETAIL C

LEGEND

- Indicates existing structures.
- Indicates new structures.
- ● Indicates new ¾"ϕ high strength bolts in 15/16 "ϕ hole.
- △ Indicates existing ¾" ϕ rivets to be removed and replaced with new ¾" ϕ high strength bolts in existing 15/16 "ϕ hole.
- ○ Indicates approx. location of existing rivets.
- ▨ Indicates steel removal limit.

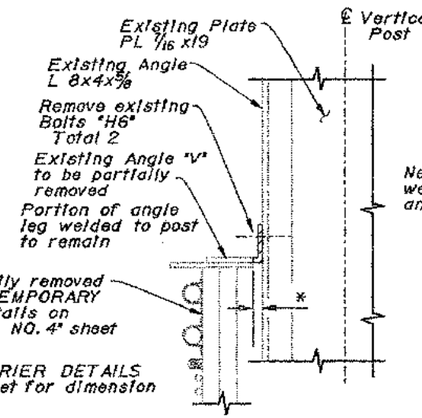
INST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alg	80	7.8/8.9, 0.0/1.1	101	205

REGISTERED ENGINEER - CIVIL
October 24, 1997

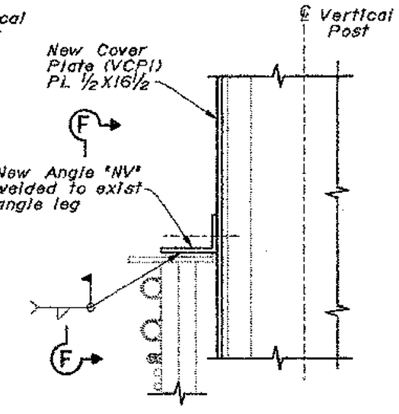
REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



(STEEL REMOVAL)

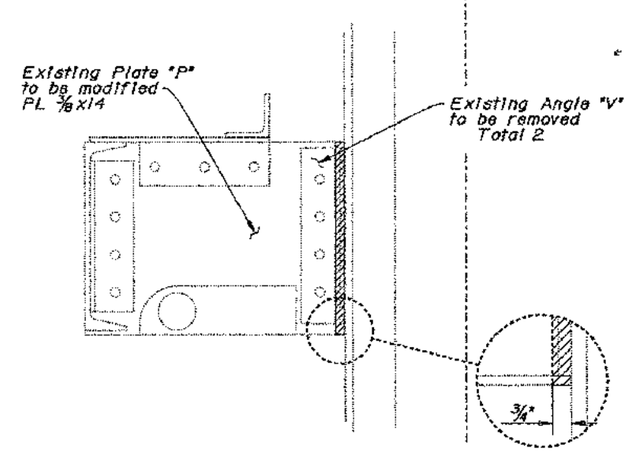


(RETROFITTED)

(YB3 & YB4)

DETAIL C

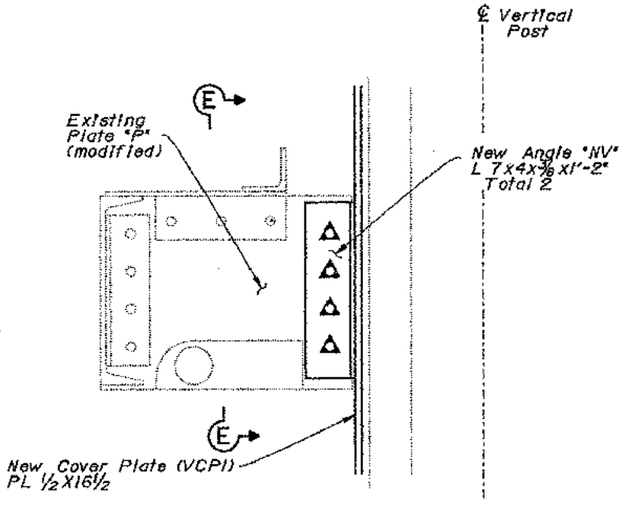
1½" = 1'-0"



(L9-U9A AT YB2)

(STEEL REMOVAL)

2" = 1'-0"

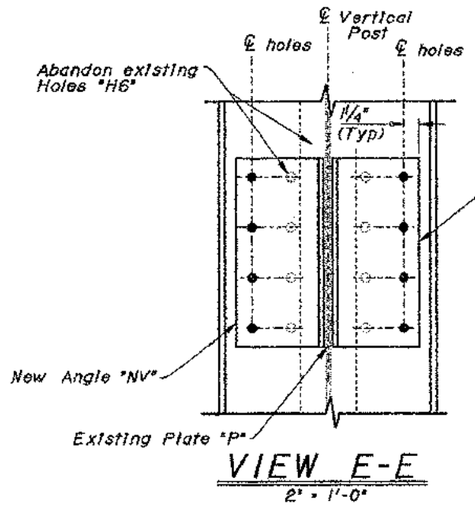


(L9-U9A AT YB2)

(RETROFITTED)

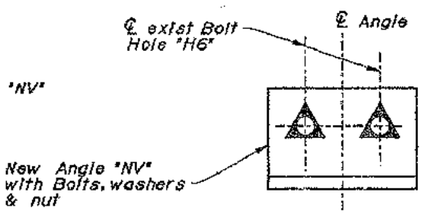
2" = 1'-0"

DETAIL C



VIEW E-E

2" = 1'-0"



VIEW F-F

4" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES YERBA BUENA ISLAND

SAN FRANCISCO-OAKLAND BAY BRIDGE

BARRIER DETAILS NO. 3

	BY		CHECKED	
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	E.A. Morris	5-97
QUANTITIES	Don Lee	5-97	E.A. Morris	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

CU 04
EA 0434J1

BRIDGE NO. 33-0025
POST MILE 1.5

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 33 OF 36

DS 050 2139 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

USERNAME => tmitkes1
bmbar33bd3_09080448

DATE PLOTTED => 8-Dec-1997
TIME PLOTTED => 08:25

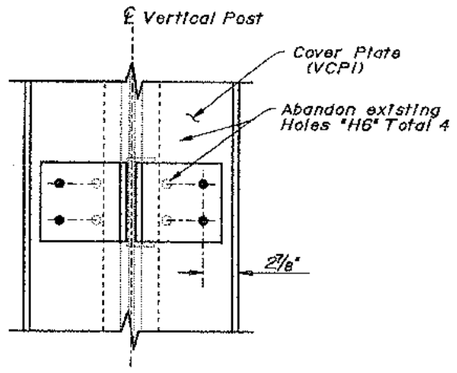
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alo	80	7.8/8.9, 0.0/1.1	102	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



VIEW H-H
2" = 1'-0"

MATERIALS FOR SOUTH TRUSS BARRIER BRACKET

LOCATION	EXISTING RIVETS/BOLTS ON PLATE "H5"	EXISTING RIVETS/BOLTS ON POST "H6"	EXISTING PLATE "P"	EXISTING ANGLE "V"	NEW ANGLE "NV"
YB1					
L0-U0A	4-¾"Ø Rivets*	8-¾"Ø Rivets	⅜x8½x1'-1½"±	4x3½x⅜x1'-1½"	2-L 6x3½x⅜x1'-1½"
YB2					
L8-U8A	4-¾"Ø Rivets**	8-1"Ø Rivets	⅜x14½x1'-7"±	2-L 4x3½x⅜x1'-2½"±	2-L 7X4X⅜x1'-2½"
L9-U9A	4 Bolts**	8-1"Ø Rivets	⅜x14x1'-9"±	2-L 5x3½x⅜x1'-2"±	2-L 7X4X⅜x1'-2"
YB3					
L17-U17A	None, see Note 3	2 Bolts	None	6x4x⅜x0'-6"±	6x4x⅜x0'-6"
L18-U18A	None. see Note 3	2 Bolts	None	6x4x⅜x0'-6"±	6x4x⅜x0'-6"
YB4					
L26-U26A	None, see Note 4	2 Bolts	None	6x4x⅜x0'-6"±	6x4x⅜x0'-6"
L27-U27A	None, see Note 4	2 Bolts	None	6x4x⅜x0'-6"±	6x4x⅜x0'-6"
E1				F.S. 6x6x⅜x0'-6½"±	F.S. 8x8x½x0'-6½"
L35-U35A	4-1"Ø Rivets	4-1"Ø Rivets	C8x18.75x2'-2"±	N.S. 6x3½x⅜x0'-6½"±	N.S. 8x8x½x0'-6½"

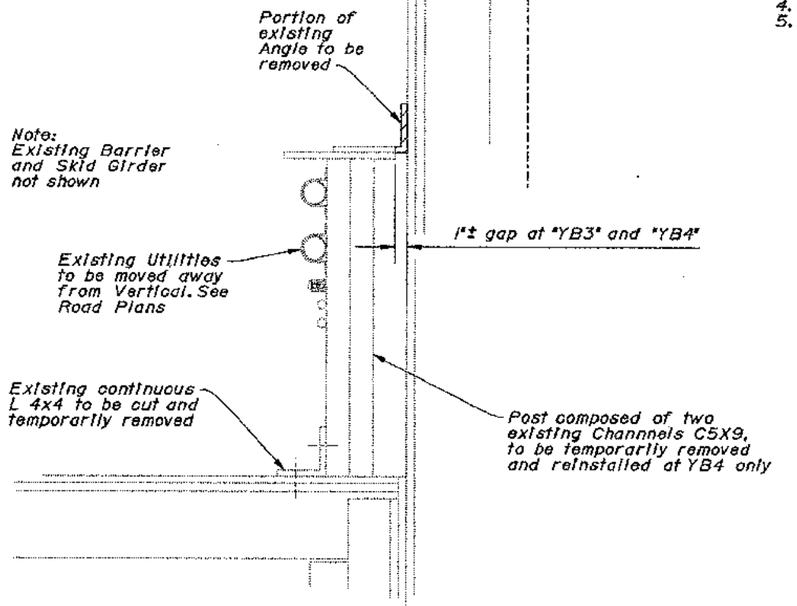
*See Note 1
**See Note 2

Notes:
1. For barrier temporary removal and replacement details at YB1, see "BARRIER DETAILS NO. 2" sheet.
2. For barrier temporary removal and replacement details at YB2, see "BARRIER DETAILS NO. 2" and "Barrier Details No. 3" sheets.
3. For barrier temporary removal and replacement details at YB3, see "BARRIER DETAILS NO. 3" sheet. Utility box above skid girder not shown, see Road Plans.
4. For barrier temporary removal and replacement details at YB4, see "BARRIER DETAILS NO. 3" sheet.
5. All rivets to be replaced with same size H.S. Bolts.

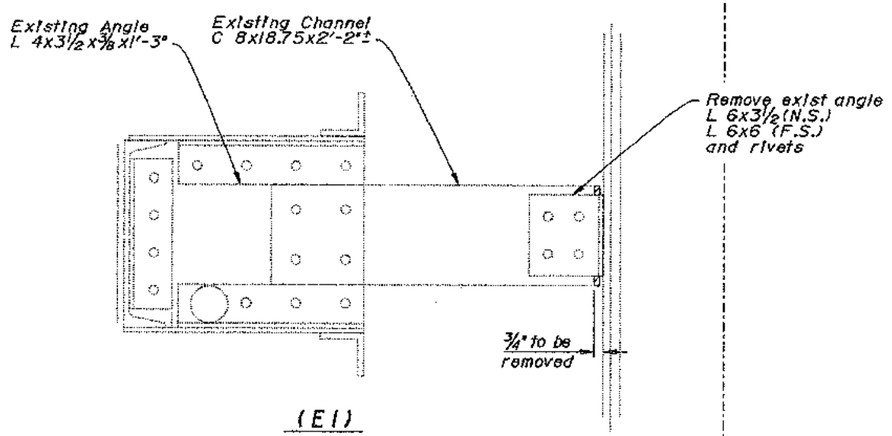
LEGEND

- Indicates existing structures.
- Indicates new structures.
- ● Indicates new 1"Ø high strength bolts.
- △ Indicates existing 1"Ø rivets to be removed and replaced with new 1"Ø high strength bolts.
- ○ Indicates approx. location of existing rivets.
- ▨ Indicates steel removal limit.

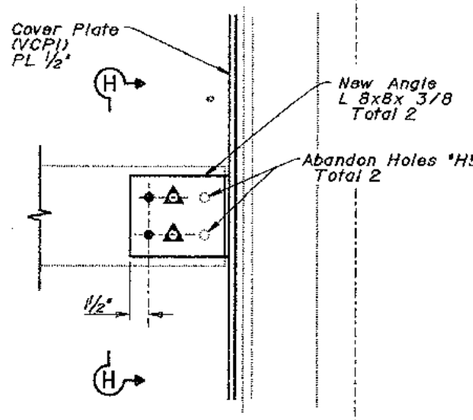
F.S. Far Side
N.S. Near Side



(L26-U26A AT YB4 ONLY)
(STEEL REMOVAL)
TEMPORARY POST REMOVAL
2" = 1'-0"



(E1)
(STEEL REMOVAL)
DETAIL C
2" = 1'-0"



(E1)
(RETROFITTED)
DETAIL C
2" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
BARRIER DETAILS NO. 4

	BY		CHECKED	
DESIGN	E.A. Morris	5-97	Don Lee	5-97
DETAILS	Ralph Nakaoka	5-97	E.A. Morris	5-97
QUANTITIES	Don Lee	5-97	E.A. Morris	5-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

CU 04
EA 0434J1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 5-7-96, 5-30-97, 9-22-97

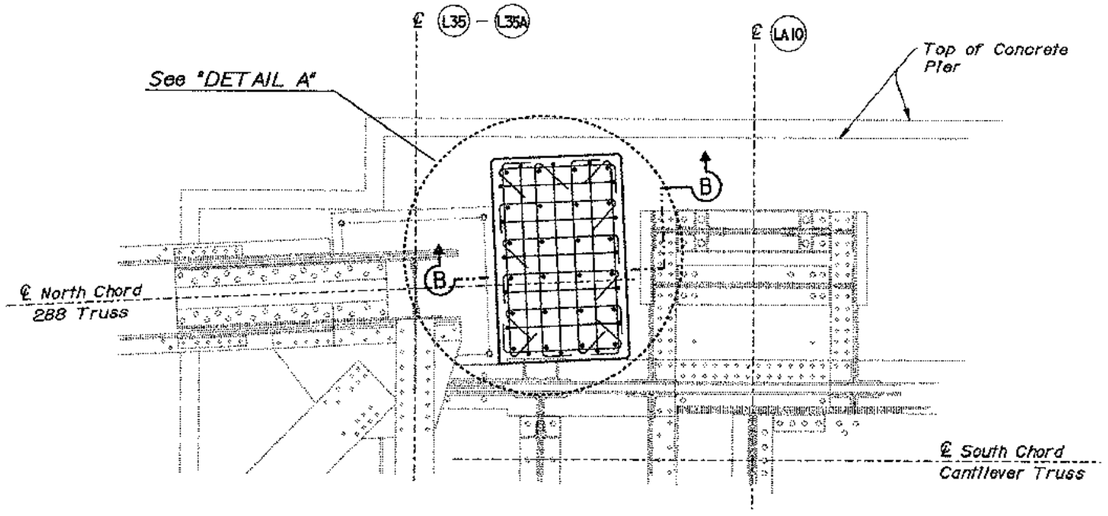
SHEET 34 OF 36

DS OSD 2139 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

USERNAME => trmikest
bmbgr34bd4..09080454

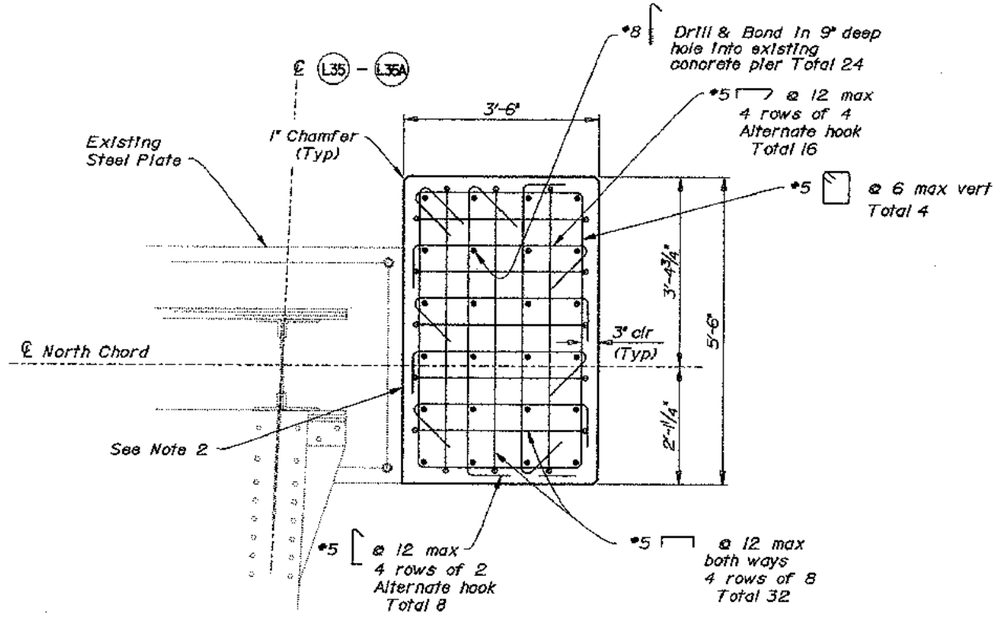
DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 08:26



(PIER E1 (NORTH))

PLAN

½" = 1'-0"



DETAIL A

¾" = 1'-0"

NOTE,
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND

Indicates Existing Structure

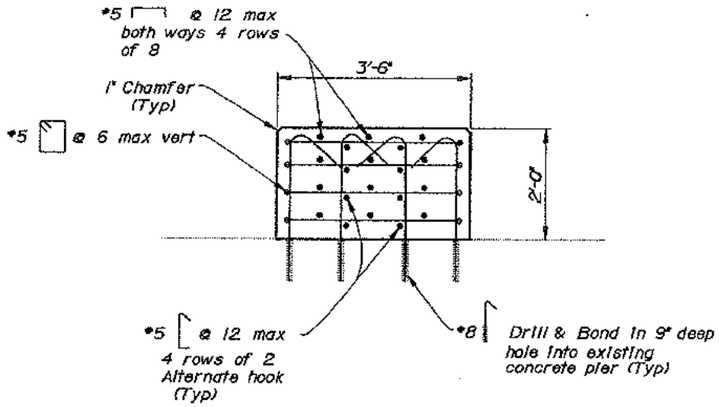
Indicates New Construction

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	103	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE



SECTION B-B

¾" = 1'-0"

Notes:

1. Locations of drilled dowel holes for *8 dowels are approximate. Prior to drilling holes in concrete the Contractor shall locate all reinforcing steel and adjust the location of the holes to clear all reinforcing bars. Final hole locations are subject to the approval of the Engineer. The total number of dowels shall remain the same.
2. One side of the concrete bolster shall be placed flush against the existing steel shoe jacket.

DESIGN	BY Don Lee	10-97	CHECKED E.A. Morris	10-97
DETAILS	BY Ralph Nakaoka	10-97	CHECKED Don Lee	10-97
QUANTITIES	BY E.A. Morris	10-97	CHECKED Don Lee	10-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER E1 ANCHORAGE DETAILS NO. 1

DS 050 2139 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) 9-29-97 10-3-97 10-23-97

SHEET 35 OF 36

USERNAME => trmikesl
bneqr35adt_09080502

DATE PLOTTED => 9-DEC-1997
TIME PLOTTED => 08:27

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alc	80	7.8/8.9, 0.0/1.1	104	205

REGISTERED ENGINEER - CIVIL
October 21, 1997

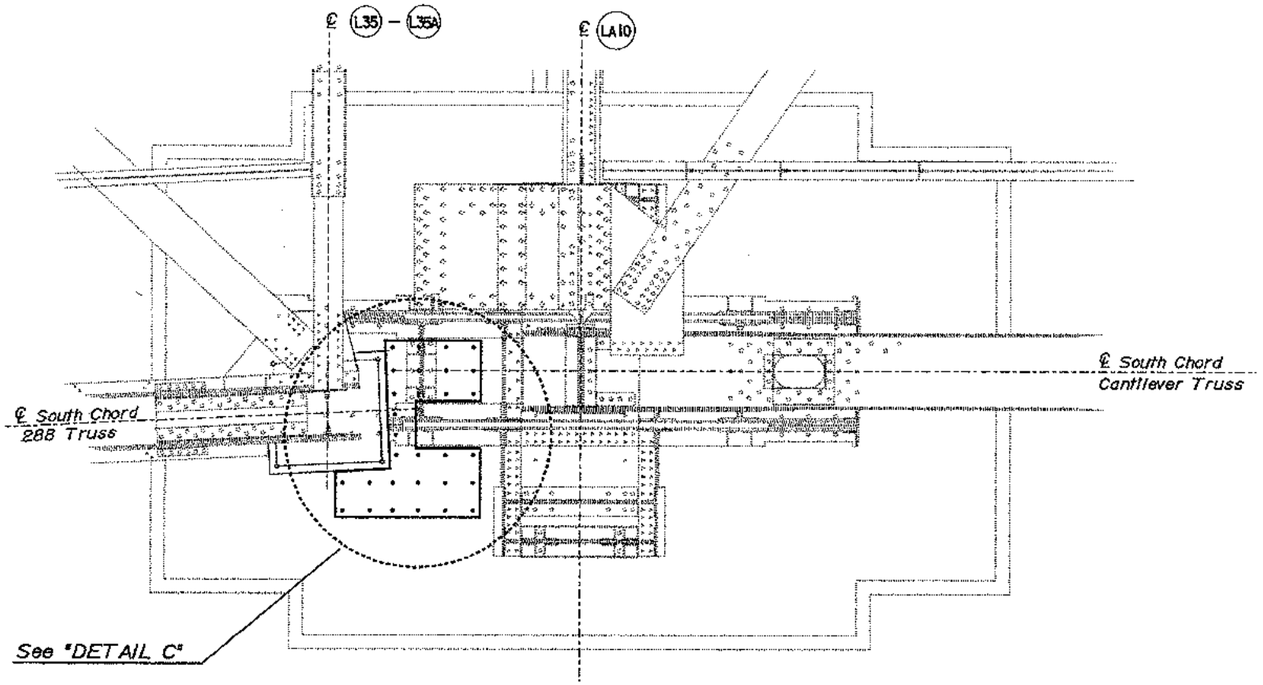
REGISTERED PROFESSIONAL ENGINEER — DER-FU DONALD LEE — No. 50978 — Exp. 9-30-01 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

LEGEND

Indicates Existing Structure

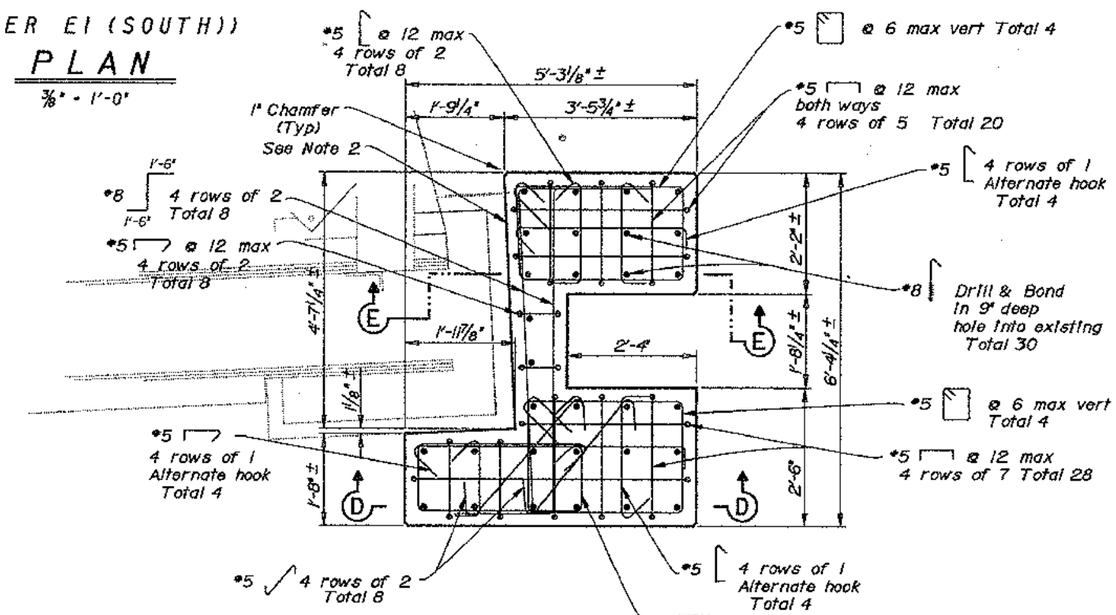
Indicates New Construction



(PIER E1 (SOUTH))

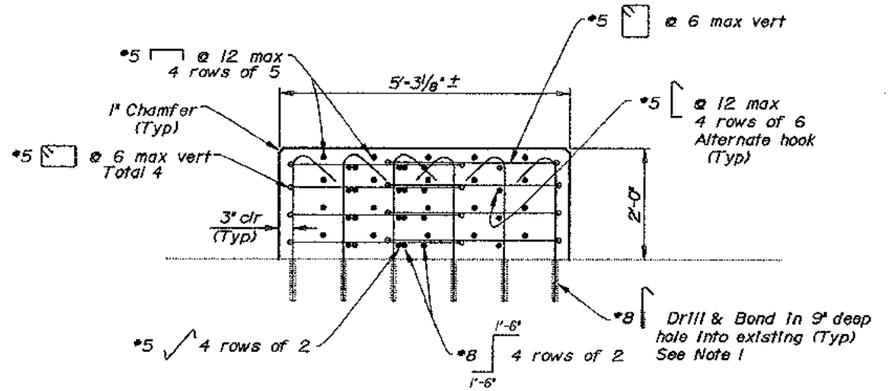
PLAN

3/8" = 1'-0"



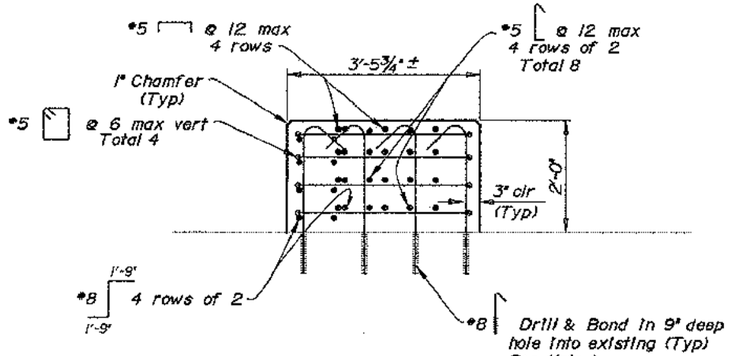
DETAIL C

3/4" = 1'-0"



SECTION D-D

3/4" = 1'-0"



SECTION E-E

3/4" = 1'-0"

Notes:

1. Locations of drilled dowel holes for *8 dowels are approximate. Prior to drilling holes in concrete the Contractor shall locate all reinforcing steel and adjust the location of the holes to clear all reinforcing bars. Final hole locations are subject to the approval of the Engineer. The total number of dowels shall remain the same.
2. One side of the concrete bolster shall be placed flush against the existing steel shoe jacket.

NOTE,
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES YERBA BUENA ISLAND
SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER E1 ACHORAGE DETAILS NO. 2

	BY		CHECKED	
DESIGN	Don Lee	10-97	E.A. Morris	10-97
DETAILS	Ralph Nakaoka	10-97	Don Lee	10-97
QUANTITIES	E.A. Morris	10-97	Don Lee	10-97

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

BRIDGE NO. 33-0025
POST MILE 1.5

CU 04
EA 043001

DS 0SD 2139 (CADD 5/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 36 OF 36

USERNAME => trmikesl
bmeqr36od2_09080505

DATE PLOTTED => 9-DEC-1997
TIME PLOTTED => 08:28